

## SEARCH REQUEST FORM

Scientific and Technical Information Center

Requester's Full Name: \_\_\_\_\_ Examiner #: \_\_\_\_\_ Date: \_\_\_\_\_

Art Unit: \_\_\_\_\_ Phone Number 30 \_\_\_\_\_ Serial Number: \_\_\_\_\_

Mail Box and Bldg/Rm Location: \_\_\_\_\_ Results Format Preferred (circle): PAPER DISK E-MAIL

**If more than one search is submitted, please prioritize searches in order of need.**

\*\*\*\*\*

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched.

Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc., if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: \_\_\_\_\_

Inventors (please provide full names): \_\_\_\_\_

Earliest Priority Filing Date: \_\_\_\_\_

*\*For Sequence Searches Only\* Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.*

STAFF USE ONLY		Type of Search	Vendors and cost where applicable
Searcher:	_____	NA Sequence (#)	STN <i>reverse tonfa</i>
Searcher Phone #:	_____	AA Sequence (#)	Dialog <i>1+1</i>
Searcher Location:	_____	Structure (#)	Questel/Orbit: _____
Date Searcher Picked Up:	<i>8/17/01</i>	Bibliographic	Dr. Link: _____
Date Completed:	<i>8/17/01</i>	Litigation	Lexis/Nexis: _____
Searcher Prep & Review Time:	_____	Fulltext	Sequence Systems <i>①</i>
Clerical Prep Time:	_____	Patent Family	WWW/Internet: _____
Online Time:	_____	Other	Other (specify): _____



51 ArgGluGlLeuLysArgThrAspThrLePheTrpProGlyCysLeuLe 67  
 ||||||| ||||| ||||| ||||| ||||| ||||| |||||  
 317 ArgGAAAGCTAAGAAACAGCACCAATCTGGCAGGCCTCCCT 366

67 uvallysArgCysGlyGlyAsnCysAlaCyscysLeuHisAsnCysasnG 84  
 367 CCTCAAACCGTTCGGCGGAACCTGTGCCATGCAACCTGCAATG 416

84 LuCysGlnCysAlaProleuLysValIhrLysLysTyrHisGluValIeu 100  
 ||||| ||||| ||||| ||||| ||||| ||||| |||||  
 417 AGTGTCACTGTCAGTGTGTCAGTGTGTCAGTGTGTCAGTGTGTCCTT 466

101 GlnLeuArgProlysthrGlyvalArgLysLeuHisLysSerLeuThrAs 117  
 ||||| ||||| ||||| ||||| ||||| ||||| |||||  
 467 CAGTTGACCCAAAGAACAGTGTGTCACAGTGTGTCACCGA 516

117 pvalAlaLeuGluLysIhrLysGluCysAspCysValCys 130  
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 517 CCTGGCCCTGGAGCACACGAGGTGTGACNGCAGTGTC 556

seq\_name: gb\_est81:BE958470

seq\_documentation\_block:

DEFINITION BE958470 523 bp mRNA EST 04-OCT-2000  
 NIH\_MGC\_56 Homo sapiens CDNA clone IMAGE:3930045 5',  
 mRNA sequence.

ACCESSION BE958470  
 VERSION BE958470.1 GI:10566175  
 KEYWORDS EST.  
 SOURCE human.  
 ORGANISM Homo sapiens  
 Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
 Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.  
 1 (bases 1 to 523)  
 NIH-MGC http://mgc.ncbi.nlm.nih.gov/.

AUTHORS National Institutes of Health, Mammalian Gene Collection (MGC)

TITLE Unpublished (1999)

JOURNAL Contact: Robert Strausberg, Ph.D.  
 Email: cgbps-r@mail.nih.gov  
 Tissue Procurement: ATCC  
 DNA Library Preparation: CLONETECH Laboratories, Inc.  
 DNA Sequencing by: Incyte Genomics, Inc.  
 Clone distribution: MGC Clone distribution information can be  
 found through the I.M.A.G.E. Consortium/LLNL at:  
 http://image.llnl.gov  
 Plate: LLM763 row: m column: 22

FEATURE source

High quality sequence start: 2  
 High quality sequence stop: 513.  
 Location/Qualifiers 1..523

/organism="Homo sapiens"  
 /db\_xref="taxon:9606"  
 /clone="IMAGE:3930045"  
 /clone.lib="NTH MGC\_56"  
 /tissue-type="primitive neuroectoderm"  
 /lab\_host="DH10B (T1 phage-resistant)"  

Note="Organ: brain; Vector: pDNR-LIB (Clontech); Site\_1:  
 SfiI (ggccgcctggcc); Site\_2: ffl (ggccatggcc);  
 Double-stranded cDNA was prepared from cell line RNA. 5',  
 and 3' adaptors were used in cloning as follows: 5', adaptor  
 sequence: 5'-CAGGCCATTATGCC-'; and 3', adaptor  
 sequence: 5'-ATTCTAGGGCGAGGGCGACATG-3'; where B = A, C,  
 G, or T, and N = A, C, G, or T). Average  
 insert size 1.65 kb (range 0.9-4.0 kb). 15/15 colonies  
 contained inserts by PCR. This library was enriched for  
 full-length clones and was constructed by Clontech  
 Laboratories (Palo Alto, CA)."

BASE COUNT 147 a 118 c 129 g 128 t 1 others  
 ORIGIN

alignment\_scores:

Quality:	705.00
Ratio:	5.261
Percent Similarity:	98.529
Percent Identity:	97.794

alignment\_block:

US-09-457-066-2\_COPY\_210\_345 x BE958470 ..

Align seq 1/1 to: BE958470 from: 1 to: 523

1 LeuAspLeuGluAspLeuLysArgProthrTrpGlnLeuLeuGlyLysAl 17  
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 101 GTGGACTTACAAGTCTATAAGGCCAACCTGGCAACTCTGGCAAGGC 152

17 apheValPhpheGlyArgLysSerArgValValAspLeuAslLeuLeuHrg 34  
 ||||| ||||| ||||| ||||| ||||| |||||  
 153 TTCGTTTCGGAGAAATCCAGTGTGAACTCTAACCTCTAACAG 202

34 luGluValArgLeuLysSerCysThrProArgAsnPhesValSerIle 50  
 ||||| ||||| ||||| ||||| ||||| |||||  
 203 AGGAGTAGATTAACTGAGTGTGACACCGTGAACCTGTAACTCTAGTGTCCATA 252

51 ArgGluGluLeuLysArgThrAspThrIlePheTrpProGlyCysLeuLe 67  
 ||||| ||||| ||||| ||||| ||||| |||||  
 253 AGGGAGAACTAAAGAACGATACCATTTCAGGCCAGGTGTCCTCCP 302

67 uvallysArgCysGlyGlyAsnCysAlaCyscysLeuHisAsnCysasnG 84  
 ||||| ||||| ||||| ||||| |||||  
 303 GGTTAAACGCTGTGGTGGAAACTGTGCCGNTGCTCCACATGCAATG 352

84 luCysGlnCysValProserLysValThrLysLysTyrHisGluValLeu 100  
 ||||| ||||| ||||| ||||| ||||| |||||  
 353 AATGCTCAAGTGTGTCACAAAGTACAAAAATAACGAGGTCCPT 402

101 GlnLeuArgProLySThrGlyValArgGlyLeuLysSerLeuThrAs 117  
 ||||| ||||| ||||| ||||| ||||| |||||  
 403 CAGTGAGACCAAAGACCCGCTGTCAGGGATTGCCAAATCACACCGA 452

117 PVALALAEGluLysIhrLysGluCysAspCysValCysArgGlySerT 134  
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 453 CGTGGC.CTGGAGCACCATTAGGGAGTGTGACTGTTGCAAGGGAGCA 501

seq\_name: gb\_est82:BF021679

seq\_documentation\_block:

DEFINITION BF021679 523 bp mRNA EST 29-DEC-2000  
 NIH\_MGC\_56.y1 NCI\_CGAP\_Lu30 Mus musculus cDNA clone IMAGE:3663009 5'  
 similar to TR:Q9Y71 Q9QY71 FALLOTEEN. ; mRNA sequence.

ACCESSION BF021679  
 VERSION BF021679.1 GI:10753011  
 SOURCE EST.  
 ORGANISM Mus musculus

Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
 Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.

REFERENCE 1 (bases 1 to 523)  
 NCBI-CCAP http://www.ncbi.nlm.nih.gov/ncicgap.

AUTHORS 1 bases 1 to 523  
 NCBI-CCAP  
 1 (bases 1 to 523)  
 1 (bases 1 to 523)

TITLE NCBI-CCAP  
 1 (bases 1 to 523)

TITLE National Cancer Institute, Cancer Genome Anatomy Project (CGAP),  
 Tumor Gene Index  
 Unpublished (1997)

JOURNAL CONTACT: Robert Strausberg, Ph.D.  
 Email: cgbps-r@mail.nih.gov

COMMENT Tissue Procurement: ATCC  
 DNA Library Preparation: CLONETECH Laboratories, Inc.  
 DNA Sequencing by: Incyte Genomics, Inc.  
 Clone distribution: MGC Clone distribution information can be  
 found through the I.M.A.G.E. Consortium/LLNL at:  
 http://image.llnl.gov

FEATURE source

29-DEC-2000

LOCUS BF021679

DEFINITION u50f05.y1 NCI\_CGAP\_Lu30 Mus musculus cDNA clone IMAGE:3663009 5'

VERSION BF021679

SOURCE EST.

ORGANISM Mus musculus

Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
 Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.

REFERENCE 1 (bases 1 to 523)  
 NCBI-CCAP http://www.ncbi.nlm.nih.gov/ncicgap.

AUTHORS 1 bases 1 to 523  
 NCBI-CCAP  
 1 (bases 1 to 523)

TITLE NCBI-CCAP  
 1 (bases 1 to 523)

TITLE National Cancer Institute, Cancer Genome Anatomy Project (CGAP),  
 Tumor Gene Index  
 Unpublished (1997)

JOURNAL CONTACT: Robert Strausberg, Ph.D.  
 Email: cgbps-r@mail.nih.gov

COMMENT Tissue Procurement: Gilbert Smith, Ph.D.  
 CDNA Library Preparation: Life Technologies, Inc.  
 CDNA Library Arrayed by: The I.M.A.G.E. Consortium (LLNL)  
 DNA Sequencing by: Washington University Genome Sequencing Center  
 Clone distribution: NCI-CCAP clone distribution information can be  
 found through the I.M.A.G.E. Consortium/LLNL at:  
 image.llnl.gov/image/html/resources.shtml



Align seg 1/1 to: BF102859. from: 1 to: 851

LOCUS           BF102859           851 bp           mRNA           EST  
DEFINITION       NIH\_MGC\_560 Homo sapiens CDNA clone IMAGE:4073095 5 ,  
VERSION           BF102859  
KEYWORDS          EST .

SOURCE            ORGANISM        Homo sapiens      Chordata; Craniata; Vertebrata; Euteleostomi;  
                  Bukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
                  Mammalia; Butheria; Primates; Catarrhini; Hominidae; Homo .

REFERENCE        NIH-MGC (bases 1 to 851)  
AUTHORS           National Institutes of Health, Mammalian Gene Collection (MGC)  
TITLE             Unpublished (1999)  
JOURNAL           COMMENT  
                  Contact: Robert Strausberg, Ph.D.  
                  Email: cgbps-r@mail.nih.gov  
Tissue Procurement: DOD/DTRP  
CDNA Library Preparation: CLONETECH Laboratories, Inc.  
DNA Library Arrayed by: The I.M.A.G.E. Consortium (LLNL)  
DNA Sequencing by: Incyte Genomics, Inc.  
Clone distribution: MGC clone distribution information can be  
found through the I.M.A.G.E. Consortium/LLNL at:  
<http://image.llnl.gov>  
Plate: LICN921 row: f column: 08  
High quality sequence stop: 529 .

FEATURES           source  
                  1..851  
                  Organism="Homo sapiens"  
                  /db\_xref="taxon:9606"  
                  /clone="IMAGE:4073095"  
                  /clone\_lib="NIH\_MGC\_560"  
                  /tissue\_type="adenocarcinoma"  
                  /lab\_host="#DH110B (T1 phage-resistant)"  
                  /note="Organ: prostate; Vector: pDNR-LIB (Clontech);  
Site\_1: SfiI (ggccatttcggcc); Site\_2: SfiI (ggccatttcggcc);  
Site\_3: Double-stranded cDNA was prepared from cell line RNA.  
Adaptors were used in cloning as follows: 5'-  
sequence: 5'-ATTCCTAGGGCCAGGGCGCAGATGTTGGCC-3' and 3' adaptor  
(where B = A, C, or G and N = A, C, G, or T). Average  
insert size 1.5 kb (range 0.9-4.0 kb). 14/15 colonies  
contained inserts by PCR. This library was enriched for  
full-length clones and was constructed by Clontech  
Laboratories (Palo Alto, CA). Note: this is a NIH\_MGC  
Library."  
BASE COUNT        234 a 169 c 238 g 210 t  
ORIGIN

alignment\_scores:  
                  Quality: 622.00           Length: 138  
                  Ratio: 4.712           Gaps: 4  
Percent Similarity: 95.652           Percent Identity: 93.478

alignment\_block:  
                  us-09-457-066-2\_COPY\_210\_345 x BF102859 ..

seq\_documentation.block:  
LOCUS            BF102859           851 bp           mRNA           EST  
DEFINITION       NIH\_MGC\_560 Homo sapiens CDNA clone IMAGE:4073095 5 ,  
VERSION           BF102859  
KEYWORDS          EST .

SOURCE            ORGANISM        Homo sapiens      Chordata; Craniata; Vertebrata; Euteleostomi;  
                  Bukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
                  Mammalia; Butheria; Primates; Catarrhini; Hominidae; Homo .

REFERENCE        NIH-MGC (bases 1 to 851)  
AUTHORS           National Institutes of Health, Mammalian Gene Collection (MGC)  
TITLE             Unpublished (1999)  
JOURNAL           COMMENT  
                  Contact: Robert Strausberg, Ph.D.  
                  Email: cgbps-r@mail.nih.gov  
Tissue Procurement: CLONETECH Laboratories, Inc.  
DNA Library Arrayed by: The I.M.A.G.E. Consortium (LLNL)  
DNA Sequencing by: Incyte Genomics, Inc.  
Clone distribution: MGC clone distribution information can be  
found through the I.M.A.G.E. Consortium/LLNL at:  
<http://image.llnl.gov>  
Plate: LIAMI0123 row: d column: 19  
High quality sequence stop: 690 .

FEATURES           source  
                  1..910  
                  Location/Qualifiers  
                  /organism="Mus musculus"  
                  /strain="FVB/N"  
                  /db\_xref="taxon:10090"  
                  /clone="IMAGE:4483938"

/clone\_lib="NCI\_CGAP\_Mam1"  
 /tissue\_type="tumor, biopsy sample"  
 /dev\_stage="3 months, virgin"  
 /lab\_host="DH10B"  
 /note="Organ: mammary; Vector: pCMV-SPORT6; Site\_1: Sall;  
 Site\_2: NotI; Cloned unidirectionally. Primer: Oligo dT.  
 Library constructed by Life Technologies. Investigator  
 providing samples: Gilbert Smith, NIH"  
 BASE COUNT 242 a 220 c 250 g 198 t  
 ORIGIN alignment\_scores:  
 Quality: 606.00 Length: 136  
 Ratio: 4.551 Gaps: 0  
 Percent Similarity: 97.059 Identity: 87.500  
 alignment\_block:  
 US-09-457-066-2\_COPY\_210\_345 x BG243001 . . .  
 Align seg 1/1 to: BG243001 from: 1 to: 910  
 1 LeuAspLeuGluAspLeuTyArgProThrTrpGlnLeuLeuGlyLysAl 17  
 :::::|||||:||||||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:  
 108 GTGGACTGGAGCACCTCTAACGCCAACATGCAGCT.TTGGCAAGSC 156  
 17 aphevalPheGlyArgLysSerArgLysAlvalAspLeuAsnLeuLeuThrHrg 34  
 ||||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:  
 157 TTTCCCTATGGAAAAAAGCAAGGGTGAATCTCCTCAAGG 206  
 34 luGluValArgLeuTySerCysThrProArgAsnPheSerValSerIle 50  
 |||||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:  
 207 AAGAGCTAAAACCTACAGCTTCACACCCGGAACTTCTCAGTGTCCATA 256  
 51 ArgGluGluLeuLysAghThrAspThrIlePheTrpProGlycysLeuE 67  
 |||||:|||||:|||||:|||||:|||||:|||||:  
 257 CGGGAAAGCTAAAGGGACAGATACCATATATCTGGCCAGGGTGTCTCT 306  
 ORIGIN alignment\_scores:  
 Quality: 587.00 Length: 116  
 Ratio: 5.149 Gaps: 0  
 Percent Similarity: 98.276 Percent Identity: 88.793  
 alignment\_block:  
 US-09-457-066-2\_COPY\_210\_345 x BF011835 . . .  
 Align seg 1/1 to: BF011835 from: 1 to: 447  
 1 LeuAspLeuGluAspLeuTyArgProThrTrpGlnLeuLeuGlyLysAl 17  
 :::::|||||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:  
 100 GTGACTTGGAGCCGCTCTAACGCCAACATGGCAAGCTTGGCAAGG 149  
 17 aPheValPheGlyArgLysSerArgValValAspLeuAsnLeuLeuThrG 34  
 :::::|||||:|||||:|||||:|||||:|||||:|||||:  
 150 TTGCCCTGTAAGGAAAAAAAGGAAAGTGGTGAATCNCCTCAAGG 199  
 34 luGluValArgLeuTySerCysThrProArgAsnPheSerValSerIle 50  
 |||||:|||||:|||||:|||||:|||||:  
 200 AGAGGTTAACCTCTAGCTGCACCCGGAAACTCTAGTCAGCTTCATA 249  
 17 PheValPheGlyArgLysSerArgThrAspThrLeuLeuLeuThrG 34  
 :::::|||||:|||||:  
 150 TTGCCCTGTAAGGAAAAAAAGGAAAGTGGTGAATCNCCTCAAGG 199  
 34 luGluValArgLeuTySerCysThrProArgAsnPheSerValSerIle 50  
 |||||:|||||:  
 200 AGAGGTTAACCTCTAGCTGCACCCGGAAACTCTAGTCAGCTTCATA 249  
 seq\_documentation\_block:  
 Locus BF011835 447 bp mRNA EST 06-OCT-2000  
 Definition us37d10.yL Soares\_NMEBA\_branchial\_arch Mus musculus CDNA clone  
 IMAGE:3169267 5'-similar to TR:Q9Y71 Q9Y71 FALLOTEIN. ; mRNA sequence.  
 Accession BF011835  
 Version BF011835.1 GI:10712110  
 EST  
 Keywords  
 Source house mouse.  
 Organism Mus musculus  
 Eukaryota: Metazoa: Chordata: Craniata: Vertebrata: Euteleostomi: Mammalia: Eutheria: Rodentia: Sciurognathi: Muridae: Murinae: Murinae;  
 Unpublished information can be found through the I.M.A.G.E. Consortium/LLNL at: image.llnl.gov/image/html/iresources.shtml

101 GlnLeuArgProLysThrGlyValArgGlyLeuHisLysSerLeuThr 116  
   ||||| ||||| ||||| ||||| :||| :||| :||| :||| :||| :||| :||| :|||  
 400 CAGTTGACCAAAACTGGACTCAAGGATTCATAATCACTCACT 447

seq\_name: qb\_est28:AL047637

seq\_documentation\_block:

LOCUS AL047637 304 bp mRNA EST 01-MAR-2000 Homo sapiens cDNA clone

DEFINITION DKFZP586J0421\_r1 586 (synonym: hutel) Homo sapiens cDNA clone

ACCESSION AL047637

VERSION AL047637.1 GI:4728633

KEYWORDS EST.

SOURCE human.

ORGANISM Homo sapiens

Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.

REFERENCE 1 (bases 1 to 304)  
 Authors Ottenwaelder,B., Obermaier,B., Newes,H.W., Gassenhuber,J. and Wiemann,S.  
 Title EST (Ottenwaelder, et al.)  
 Unpublished (1999)  
 Contact: Ottenwaelder B  
 MfPs

Am Klopferspitz 18a D-82152 Martinsried, Germany  
 This is the 5' sequence of the clone insert  
 Clone from S. Wiemann, Molecular Genome Analysis, German Cancer Research Center (DKFZ); Email: s.wiemann@dkfz-heidelberg.de;  
 sequenced by Medigenomix (Martinsried/Germany) within the cDNA sequencing consortium of the German Genome Project. No sl sequence available.  
 This clone (DKFZp586J0421) is available at the RZPD in Berlin.  
 Please contact the RZPD: Ressourcenzentrum, Heubnerweg 6, 14059 Berlin-Charlottenburg, GERMANY; Email: clone@rzpd.de.

FEATURES source

1. 304 Location/Qualifiers

/organism="Homo sapiens"  
 /db\_xref="taxon:9606"  
 /clone\_lib="586 (synonym: hutel)"  
 /issue\_type="uterus"  
 /dev\_stage="adult"  
 /lab\_host="DH10B"

/note="Vector: pSPORT1; Site\_1: NotI; Site\_2: SalI/MluI"

BASE COUNT 86 a 68 c 80 g 70 t ORIGIN

alignment\_scores:

Quality: 568.00 Length: 101  
 Ratio: 5.24 Gaps: 0  
 Percent Similarity: 100.000 Percent Identity: 99.010

alignment\_block:

US-09-457-066-2\_COPY\_210\_345 x AL047637

Align seq 1/1 to: AL047637 from: 1 to: 304

34 GluGluValArgLeuTyrSerCysthrProArgAsnPheSerValSerI 50  
   ||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| |||||  
 2 GAGGAGCTAACATTATAACAGTGACACCNGTAGTCAGTGTCCAT 51

50 eArgGluGluLeuLysArgThrAspThrLeuThrProGlyCysLeuL 67  
   ||||| ||||| ||||| ||||| ||||| ||||| ||||| |||||  
 52 AAGGGAAAGAACTAAAGAGAAGCCGATCCATTCTGGCAAGTGTCTCC 101

67 euvallysargcysGlyGlyAsnCysAlaCysLeuHisAsnCysAsn 83  
   ||||| ||||| ||||| ||||| ||||| ||||| ||||| |||||  
 102 TGGTAAACGCTGTTGGAACTGAGCTGACCCNGTAGTCAGTGTCCAT 151

84 GluCysGlnCysvalProSerLysValThrLysLysTyrHisGluValle 100  
   ||||| ||||| ||||| ||||| ||||| ||||| |||||  
 152 GAATCTCAATGTCGCCAACGAAAGTTACTAAAAATAACCGAGSTCC 201

100 uGlnLeuArgProLysThrGlyValArgGlyLeuHisLysSerLeuThr 117  
   ||||| ||||| ||||| ||||| :||| :||| :||| :||| :||| :||| :|||  
 202 TCAGTTGAGACCAAAGACGGTGTCAAGGGATTGCAGGGATTCACAATCACTCAGG 251

117 spvalalauGluHisLysGluCysAspCysValCysArgGlySer 133  
   ||||| ||||| ||||| ||||| ||||| ||||| ||||| |||||  
 252 ACGTGGCCCTGGAGCACCATGGAGGTGACTGTGTGAGGGAGGC 301

134 Thr 134  
 :::  
 302 TCA 304

seq\_name: qb\_est91:BF670092

seq\_documentation\_block:

LOCUS BF670092 874 bp mRNA EST 21-DEC-2000 Homo sapiens cDNA clone IMAGE:4276493 ,

DEFINITION 60211417E1 NIH\_MGC\_56 mRNA sequence.

ACCESSION BF670092

VERSION BF670092.1 GI:11943987

KEYWORDS EST.

SOURCE human.

ORGANISM Homo sapiens

Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Buthidae; Primates; Catarrhini; Hominidae; Homo.

REFERENCE 1 (bases 1 to 874)  
 NIH-MGC http://mgc.ncbi.nlm.nih.gov/ ,  
 AUTHORS NIH-MGC  
 TITLE National Institutes of Health, Mammalian Gene Collection (MGC)  
 JOURNAL Unpublished (1999)

COMMENT Contact: Robert Straussberg, Ph.D.  
 Email: cgabs@nih.gov  
 Tissue Procurement: ATCC  
 CDNA Library Preparation: CLONETECH Laboratories, Inc.  
 CDNA Library Arrayed by: The I.M.A.G.E. Consortium (LILNL)  
 DNA Sequencing by: Incyte Genomics, Inc.  
 Clone distribution: MGC clone distribution information can be found through the I.M.A.G.E. Consortium/LILNL at: http://image.lilnl.gov  
 Plate: LICM1097 row: a column: 06  
 High quality sequence stop: 598.

FEATURES source

1. 874 Location/Qualifiers

/organism="Homo sapiens"  
 /db\_xref="taxon:9606"  
 /clone="IMAGE:4276493"  
 /clone\_lib="NIH\_MGC\_56"  
 /tissue\_type="primitive neuroectoderm"  
 /lab\_host="DH10B (T1 phage-resistant)"  
 /note="Organ: brain; Vector: pDR-LIB (Clontech); Site\_1: SII (9gcccattatggcc); Site\_2: SII (9gcccattatggcc); Double-stranded cDNA was prepared from cell line RNA. 5' adaptor sequence: 5'-CACGCCATATGCC-3', and 3' adaptor sequence: 5'-ATTCCTAGGGCCAGGGCCGCGCATG-dT(30)BN-3', where B = A, C, or G and N = A, T, C, G, or T). Average insert size 1.65 kb (range 0.9-1.0 kb). 15/15 colonies contained inserts by PCR. This library was enriched for full-length clones and was constructed by Clontech Laboratories (Palo Alto, CA)." .

BASE COUNT 227 a 208 c 245 g 194 t ORIGIN

alignment\_scores:

Quality: 538.50 Length: 143  
 Ratio: 4.240 Gaps: 10  
 Percent Similarity: 88.811 Percent Identity: 86.713

alignment\_block:

US-09-457-066-2\_COPY\_210\_345 x BF670092 ..

Align seq 1/1 to: BF670092 from: 1 to: 874

1	LeuAspLeuGluAspLeuThrArgProThrTrpGlnLeuLeuGlyLysAl	17
19	TTCGACTTAAAGATCTTATAGCCAACTTGGAACCTCTGGCAAGGC	68
17	aPheValPhe.GLYArgLysSerArgValAlaPheAsnLeuIleThr	33
69	TTGG...TTGGGAGAAATCCAGGGTGGATCTGACCTCTAACACA	115
34	GluGluValArgLeu.TyrSerCystinProArgAspPheSerValSer	49
116	GAGGAGGAAAGATTAGCATGTGCAACCTCGTAACTCTGAGTGRCC	165
50	IleArg.GluGlueLysArgLysAspThr.PheTrpProGlyCys	65
166	ATAATGGGAGACCTAAGAGAACGAGAACCCGACCAAGTTGCCAGGTTG	215
66	LeuLeuValLysArgCysGlyGlyAsnCysAlaCysCysLeuHisAsnCys	82
216	CTCCTGGTTAACGCTGGTGGAACTGTGCCCTGTGGCTCCACAAATG	265
82	sAsnGlucySgln.CysValProSerLysValThrLysLysThrHis	98
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98	uValLeuGlnLeuArgProLyserGlyLysValArgGlyLeuHisLyserL	115
316	GGTCCTTGAAGTGTGAGACCAAAGCCTGGTCAAGGGATGGCACAAATZAC	365
115	euthrAspValAlaLeuGluHis.HisGlu.GluCysAspCys.ValCys	130
366	TCACCGACGCTGGCCGTGGAGCACCCATAGAGACTGTGACTGGTGTGCC	415
131	ArgGlySerThr	134
416	AGGGGACACAA	427
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DEFINITION	BF031624	NM_0015810451 NM_GC_58 Homo sapiens CDNA Clone IMAGE:3027760 5 , mRNA sequence.
PROCESSION	BF031624	EST.
JOURNAL	BF031624.1	GI:10739336
KEYWORDS		
SOURCE	Homo sapiens	
ORGANISM	Bukaryota; Metzoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.	
COMMENT		
REFERENCE	1 (bases 1 to 950)	
AUTHORS	NIH-NHG http://mgc.ncbi.nih.gov/.	
TITLE	National Institutes of Health, Mammalian Gene Collection (MGC)	
JOURNAL	Unpublished (1999)	
CONTACT	Robert Strausberg, Ph.D.	
Email:	csapbs-r@mail.nih.gov	
Tissue	Procurement: ATCC	
Procurement:	CDNA Library Preparation: CLONETECH Laboratories, Inc.	
Library	CDNA Library Arrayed by: The I.M.A.G.E. Consortium (LNL)	
Procurement:	DNA Sequencing by: Incyte Genomics, Inc.	
Procurement:	Clone distribution: MGC clone distribution information can be found through the I.M.A.G.E. Consortium/LNL at: http://image.llnl.gov	
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	/lab_host="DH10B (T1 Phage-resistant)"	

note="Organ: kidney; Vector: PDNR-LIB (Clontech); site\_1: SfiI (ggccgcgtcgcc); Site\_2: SfiI (ggccattatggcc); Double stranded cDNA was prepared from cell line RNA. 5' and 3' adaptors were used in cloning as follows: 5', adaptor sequence: 5'-CACGGCCATATTGGCC-3', and 3', adaptor sequence: 5'-AATTAGGCCGGCCGACATG-dT(30)BN(3', (where B = A, C, or G and N = A, C, G, or T). Average insert size 1.35 kb (range 0.9-4.0 kb). 15/15 colonies contained inserts by PCR. This library was enriched for full-length clones and was constructed by Clontech Laboratories (Palo Alto, CA)."

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Percent Similarity: 98.947 Percent Identity: 97.895

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  75 YsAlaCysScsLeuHisAsnCysAsnGluCysGlnCysValProSerLys 91
  103 GTGCCTGCTGCTCCACANTGCATGAATGTCATGTTGCCAGCARA 152
  92 Val Arg Lys Asp Lys Tyr His Glu Val Leu Gln Leu Arg Pro Lys Thr Gly Va 108
  153 GTTACTAAAAAATACCACGGTCTTCAGTGAACCAAGACCGGT 202
  108 Lys Arg Gly Leu His Lys Ser Leu Thr Asp Val Ile Leu Glu His Glu G 125
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ACCESSION BG118707
VERSION GI:12612213
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SOURCE human.
ORGANISM Homo sapiens
COMMENT Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
REFERENCE 1 (bases 1 to 96)
AUTHORS NIH-MeG http://mgc.ncbi.nih.gov/
TITLE National Institutes of Health, Mammalian Gene Collection (MGC)
JOURNAL Unpublished (1999)
COMMENT Contact: Robert Strausberg, Ph.D.
Email: cgabs-r@mail.nih.gov
Tissue Procurement: ATCC
CDNA Library Preparation: Life Technologies, Inc.
CDNA Library Arrayed by: The I.M.A.G.E. Consortium (LLNL)
DNA Sequencing: Icyte Genomics, Inc.
Clone distribution: MGC Clone distribution information can be

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 Average insert size 1.7 kb. Library enriched for  
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 Note: this is a NIH\_MGC Library."  
 BASE COUNT 313 a 230 c 219 g 206 t  
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 US-09-457-066-2\_COPY\_210\_345 x BG118707 ..

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 223 .TTCTTTTGGAAAGAAATTCAAGACTGGATCTGAACCTCTAACAG 272

34 luGluvalArgLeuTySerCysThrProArgAsnPheSerValSerile 50  
 273 AGGA..... 276

51 ArgGluGluLeuLeuLysArgGlyAspThrIlePheTrpProGlyCysLeuLe 67  
 277 ..... 287

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84 luCysGlnCysvalProSerLysValthrLysLysTrpHisGlyValLeu 100  
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101 GlnLeuArgProLysThrGlyValArgGlyLeuHisLysSerLeuThrAs 117  
 388 CAGTGAGACCAAAAGACCGGTGTGGGATTGACAATCACTACCGA 437

117 pvalAlaLeuGluHisLysLysTrpHisGlySerLysArgGlySerI 134  
 438 CGTGGC.CTGGAGAACCATGAGGAGTGTGACTGTGTGAGGGAGGAGCA 486

134 hrGlyGly 136  
 487 CAGGAGGA 494

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 DEFINITION Tetraodon nigroviridis genome survey sequence pUC-Ori end of clone

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 ACCESSION AL18078  
 VERSION AL18078.1 GI:7819035  
 KEYWORDS GSS: genome survey sequence.  
 SOURCE Tetraodon nigroviridis.  
 ORGANISM Tetraodon nigroviridis  
 Eukaryota: Metazoa: Chordata: Craniata: Vertebrata: Euteleostomi: Actinopterygii: Neopterygii: Teleostei: Euteleostei: Neoteleostei: Acanthomorpha: Pantanopterygii: Percormorpha: Tetraodontiformes: Tetrodontidae: Tetraodon.  
 1 (bases 1 to 877)  
 Roest-Crollius,H., Jaillon,O., Dasilva,C., Fizames,C., Fisher,C., Bouneau,L., Billault,A., Quetier,F., Saurin,W., Bernot,A. and Weissenbach,J.  
 Characterization and repeat analysis of the compact genome of the freshwater pufferfish Tetraodon nigroviridis  
 Unpublished  
 2 (bases 1 to 877)  
 Roest-Crollius,H., Jaillon,O., Dasilva,C., Brottier,P., Quetier,F., Saurin,W. and Weissenbach,J.  
 Human gene number estimate provided by genome wide analysis using  
 Unpublished  
 3 (bases 1 to 877)  
 Genoscope.  
 Direct Submission  
 Submitted (12-APR-2000) to the EMBL/GenBank/DDBJ databases  
 This sequence is a single read and was generated as part of a large scale clone-end sequencing project of the Tetraodon nigroviridis genome. For more information, please take a look at http://www.genoscope.cns.fr/tetraodon.  
 JOURNAL  
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 26 ..... 26  
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595	5	GGTGAGGAGCTGAGGGACCGATGTAATTTCGCGGCCAACGTCCTCC	546
67	5	euvallysargcysglyasncysalaCysCysLeuHisAsnCysAsn	83
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Eukaryota; Metazoa; Chordata; Craniata; Vertebrata;			
Mammalia; Eutheria; Rodentia; Sciurognathii; Muridae			
REFERENCE 1 (bases 1 to 902)			
AUTHORS NIH/MGC http://mgc.nci.nih.gov/			
TITLE National Institutes of Health, Mammalian Gene Collection			
JOURNAL Unpublished (1999)			
COMMENT Contact: Robert Strausberg, Ph.D.			
Email: cgaps_r@mail.nih.gov			
Tissue Procurement: Gilbert Smith, Ph.D.			
DNA Library Preparation: Life Technologies, Inc.			
DNA Sequencing by: Incyte Genomics, Inc.			



COMMENT  
 Contact: Marra M/Mouse EST Project  
 WashU-HHMI Mouse EST Project  
 Washington University School of Medicine  
 4444 Forest Park Parkway, Box 8501, St. Louis, MO 63108  
 Tel: 314 286 1800  
 Fax: 314 286 1810  
 Email: mouseest@wustl.edu  
 This clone is available royalty-free through LLNL; contact the  
 IMAGE Consortium (info@image.llnl.gov) for further information.  
 MGI:898516

Seq primer: -28m13 rev2 ET from Amersham

High quality sequence stop: 283.

FEATURES	source	location/Qualifiers
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ORIGIN		

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21:	/SIDSB8/gcadata/geneseq/geneseq/AA2000.DAT:*	KW	growth factor; heparin; connective tissue; wound healing; VEGF-F;
22:	/SIDSB8/gcadata/geneseq/geneseq/AA2001.DAT:*	KW	fibroblast mitogenesis; PDGF alpha receptor activation; tumour growth;
		KW	choriocarcinoma; Wilms' tumour; megakaryoblastic leukaemia;

score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

## SUMMARIES

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130-SEP-1999;	99W0-US22668-	
130-SEP-1998;	99US-0102461-	
112-NOV-1998;	98US-0108109-	
03-DEC-1998;	98US-0110749-	
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15-JULY-1999;	99US-0144022-	

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3	754	100.0	345	20	AYY33679	Human VEGF-E protease-activated receptor 1
4	754	100.0	345	20	AYY41766	Human PRO200 protein
5	754	100.0	345	20	AYY30023	Human vascular endothelial growth factor receptor 3
6	754	100.0	345	21	AAB48657	Human zyvegf3, SEQ ID NO: 1
7	754	100.0	345	21	ARB24250	Human platelet-derived growth factor receptor beta chain
8	754	100.0	345	21	AAB43220	Human PRO200 (UNG01)
9	754	100.0	345	21	AAB10633	Human RAGE gene product
10	754	100.0	345	21	AAB10634	Human VEGF-X homolog
11	754	100.0	345	21	AAB10635	Human VEGF-X protein



KW	VEGF-E; human; vascular endothelial cell growth factor; wound repair;		Db	330
KW	treatment; cardiovascular disorder; endothelial disorder; therapy;	ehheecdevcrsgstgg		345
KW	tissue generation; regeneration; cardiac hypertrophy; cancer; detection;			
KW	angiogenic disorder; age-related macular degeneration; vascular disease;			
KW	neovascularization; tumor; gene mapping.			
XX				
OS	Homo sapiens.		RESULT	4
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XX	PD 23-SEP-1999.	XX	XX	AAV41766;
XX	PF 10-MAR-1999; 99WO-US05190.	XX	DT 07-DEC-1999	(first entry)
XX	PR 17-MAR-1998; 98US-0040220.	XX	DE Human PRO200	protein sequence.
PR 02-NOV-1998; 98US-0184216.	XX	XX	XX	
XX	(GETH ) GENENTECH INC.	XX	XX	
PA		XX	XX	
PI	Ferrara N, Kuo SS;	OS	XX	
XX	XX	XX	XX	
DR	WPI; 1999-580306/49.	PN	PN	WO9946281-A2.
N-PSDB; AAZ223691.	XX	XX	XX	
XX	New growth factor polypeptide useful for treating cardiovascular or	PD 16-SEP-1999.	XX	
PT	endothelial disorders, e.g. cardiac hypertrophy	PF 08-MAR-1999;	XX	99WO-US05028.
XX		PR 10-MAR-1998;	XX	
PS	Claim 1; Fig 2; 122pp; English.	PR 11-MAR-1998;	XX	98US-0077450.
XX	This invention describes the isolation of a novel human vascular	PR 11-MAR-1998;	XX	98US-0077632.
CC	endothelial cell growth factor-E (VEGF-E) polypeptide which has	PR 11-MAR-1998;	XX	98US-0077641.
CC	tranquillizer, vulnerary and cardiant activity. VEGF-E can be administered	PR 11-MAR-1998;	XX	98US-0077649.
CC	therapeutically, especially by expressing encoding polyucleotides, to	PR 12-MAR-1998;	XX	98US-0077791.
CC	treat cardiovascular or endothelial disorders in mammals, especially	PR 13-MAR-1998;	XX	98US-0078004.
CC	therapeutically, especially by expressing encoding polyucleotides, to	PR 17-MAR-1998;	XX	98US-0078020.
CC	treat cardiovascular or endothelial disorders in mammals, especially	PR 20-MAR-1998;	XX	98US-0078886.
CC	humans. It is useful in wound repair and tissue generation and	PR 20-MAR-1998;	XX	98US-0078910.
CC	regeneration, and may especially be used to treat cardiac hypertrophy	PR 20-MAR-1998;	XX	98US-0078936.
CC	it can be combined with a carrier in pharmaceutical compositions, which	PR 20-MAR-1998;	XX	98US-0078939.
CC	can be administered to treat disorders as above. VEGF-E can be used to	PR 25-MAR-1998;	XX	98US-0079294.
CC	screen for antagonists and agonists, and the antagonists administered to	PR 25-MAR-1998;	XX	98US-0079656.
CC	treat angiogenic disorders in mammals (e.g., cancer or	PR 27-MAR-1998;	XX	98US-0079663.
CC	age-related macular degeneration). It can be used to generate antibodies or	PR 27-MAR-1998;	XX	98US-0079664.
CC	useful therapeutically as antagonists, as above. The antibodies are also	PR 27-MAR-1998;	XX	98US-0079689.
CC	useful to detect VEGF-E polypeptide, especially to diagnose	PR 27-MAR-1998;	XX	98US-0079728.
CC	cardiovascular, endothelial or angiogenic disorders in mammals (e.g.,	PR 30-MAR-1998;	XX	98US-0079786.
CC	vascular disease, or neovascularization associated with tumor formation),	PR 30-MAR-1998;	XX	98US-0079920.
CC	CC by contacting the antibody with a tissue sample and detecting formation	PR 30-MAR-1998;	XX	98US-0079923.
CC	of an antibody-VEGF-E polypeptide complex. Polynucleotides encoding	PR 31-MAR-1998;	XX	98US-0080105.
CC	VEGF-E can be used to diagnose cardiovascular and endothelial disorders	PR 31-MAR-1998;	XX	98US-0080107.
CC	in mammals, by detecting abnormally high or low VEGF-E gene expression in	PR 31-MAR-1998;	XX	98US-0080165.
CC	tissue samples. They can also be used to diagnose a disease or	PR 31-MAR-1998;	XX	98US-0080194.
CC	susceptibility to a disease related to a mutated form of VEGF-E (e.g., a	PR 01-APR-1998;	XX	98US-0080327.
CC	cardiovascular, endothelial or angiogenic disorder such as a tumor), by	PR 01-APR-1998;	XX	98US-0080328.
CC	detecting a mutation in the VEGF-E encoding sequence isolated from a	PR 01-APR-1998;	XX	98US-0080333.
CC	sample. They may also be used to produce probes useful to detect related	PR 01-APR-1998;	XX	98US-0080334.
CC	sequences or for gene mapping. This sequence represents the human VEGF-E	PR 08-APR-1998;	XX	98US-0081049.
CC	protein described in the method of the invention.	PR 08-APR-1998;	XX	98US-0081070.
XX		PR 09-APR-1998;	XX	98US-0081195.
SQ	Sequence 345 AA;	PR 09-APR-1998;	XX	98US-0081203.
Query Match	100.0%; Score 754; DB 20; Length 345;	PR 09-APR-1998;	XX	98US-0081229.
Best Local Similarity	100.0%; Pred. No. 4. 7e-11;	PR 15-APR-1998;	XX	98US-0081817.
Matches 136; Conservative 0; Mismatches 0; Indels 0; Gaps 0;		PR 15-APR-1998;	XX	98US-0081838.
QY	1 LDLEDLYRPTWQLGKAFYGRKSRYVVDILNLTTEEVRLYSCTPRNFSVSSTREELKRTDTI	PR 21-APR-1998;	XX	98US-0081955.
DB	210 ldledlyrptwqlgkafygrksryvvdilnltteevrlysctprnfsvsireelkrtdti	PR 21-APR-1998;	XX	98US-0082568.
QY	61 FWPGLCLVKRQGGNACCLINCNECQQCVPSKVTKYHEVLQLRPRKGVRGLHKSLSLTDVAL	PR 22-APR-1998;	XX	98US-0082700.
DB	270 fwpgcllvkrggnacc1hnncqccqcvpskvtkyhev1qlrpktgvrg1hks1tdval	PR 22-APR-1998;	XX	98US-0082704.
QY	121 EHHECDCVCRGSTGG 136	PR 23-APR-1998;	XX	98US-0082767.
DB		PR 23-APR-1998;	XX	98US-0082796.
QY		PR 27-APR-1998;	XX	98US-0083336.
DB		PR 28-APR-1998;	XX	98US-0083322.

PR	29-APR-1998;	98US-0083392.	QY	1 LDLEDLYPTWQLGKAFYGRKSRYVDLNLTEFVRLYSCTPRNFSTREELKRTDTI 60
PR	29-APR-1998;	98US-0083495.	Db	210 ldledlyptwqlgkafygrksrvdnlnteesvrlsctpnfsireelkrtdti 269
PR	29-APR-1998;	98US-0083496.	QY	61 FWPGLLIVKRCGGNCACLHNCNEQCVPSSKVTKYHEVLQLRPKTGVRLHKSLTDVAl 120
PR	29-APR-1998;	98US-0083497.	Db	270 fwp gllvkrcggncac1hncneqcqvpsskvtkyhevlqrpktygqzglhksltvdal 329
PR	29-APR-1998;	98US-0083545.	QY	121 EHHEECDCYCVRGSIGG 136
PR	29-APR-1998;	98US-0083554.	Db	330 ehheeecdvcvrgst99 345
PR	29-APR-1998;	98US-0083558.		
PR	29-APR-1998;	98US-0083559.		
PR	05-MAY-1998;	98US-0083742.	RESULT 5	
PR	06-MAY-1998;	98US-0084366.	ID AAY30023 standard; Protein; 345 AA.	
PR	06-MAY-1998;	98US-0084414.	ID AAY30023	
PR	06-MAY-1998;	98US-0084441.	XX	
PR	07-MAY-1998;	98US-0084598.	AC AAY30023;	
PR	07-MAY-1998;	98US-0084600.	XX	
PR	07-MAY-1998;	98US-0084627.	XX	Human vascular endothelial growth factor related protein.
PR	07-MAY-1998;	98US-0084637.	DE	
PR	07-MAY-1998;	98US-0084639.	XX	
PR	07-MAY-1998;	98US-0084641.	KW	Vascular endothelial growth factor related protein; VEGF-R protein;
PR	07-MAY-1998;	98US-0084643.	KW	tissue growth inhibition; tumour growth; cancer; tissue growth;
PR	13-MAY-1998;	98US-0085322.	KW	angiogenesis; coronary artery blockage.
PR	13-MAY-1998;	98US-0085334.	XX	
PR	13-MAY-1998;	98US-0085339.	OS	
PR	15-MAY-1998;	98US-0085572.	XX	
PR	15-MAY-1998;	98US-0085579.	PN	WO9937671-A1.
PR	15-MAY-1998;	98US-0085580.	XX	
PR	15-MAY-1998;	98US-0085582.	PD	29-JUL-1999.
PR	15-MAY-1998;	98US-0085684.	XX	
PR	15-MAY-1998;	98US-0085697.	PF	26-JAN-1999; 99WO-US01574.
PR	15-MAY-1998;	98US-0085700.	XX	
PR	18-MAY-1998;	98US-0085704.	PR	31-AUG-1998; 98US-0098548.
PR	22-MAY-1998;	98US-0086023.	PR	27-JAN-1998; 98US-0072635.
PR	22-MAY-1998;	98US-0086392.	PR	05-JUN-1998; 98US-0088089.
PR	22-MAY-1998;	98US-0086414.	PR	24-JUN-1998; 98US-0090544.
PR	22-MAY-1998;	98US-0086410.	XX	
PR	28-MAY-1998;	98US-0086466.	PA (ELIL ) LILLY & CO ELI.	
PR	28-MAY-1998;	98US-0087038.	XX	
PR	28-MAY-1998;	98US-0087106.	PI Dou S, Na S, Song HY;	
PR	30-JUL-1998;	98US-0087208.	XX	
PR	11-SEP-1998;	98US-0100038.	DR WPI: 1999-458880/38.	
XX			DR N-PSDB; AAX86352.	
(GETH ) GENENTECH INC.			XX	
PA			PS Claim 1; Page 56-58; 62PP; English.	
PI	Wood WI, Goddard A, Gurney A, Yuan J, Baker KP, Chen J;		XX	
XX			CC The present sequence represents a vascular endothelial growth factor	
DR	WPI: 1999-551358/46.		CC related (VEGF-R) protein. VEGF-R can be used in assays to identify	
DR	N-PSDB; AZ34295.		CC compounds that bind to it or that antagonize its activity. VEGF-R	
XX			CC antagonists (e.g. anti-VEGF-R antibodies) are useful for inhibiting	
XX			CC tissue growth. This is useful for inhibiting tumour growth and for	
XX			CC treating cancer. VEGF-R itself can be used to stimulate tissue	
XX			CC growth, angiogenesis and to treat coronary artery blockage. The	
XX			CC VEGF-R coding sequence can be used for the recombinant production of	
XX			CC the VEGF-R protein.	
SQ Sequence 345 AA;			XX Sequence 345 AA;	
Query Match Best Local Similarity 100.0%; Score 754; DB 20; Length 345;			Query Match Best Local Similarity 100.0%; Score 754; DB 20; Length 345;	
Best Local Similarity 100.0%; Pred. No. 4.7e-71; Mismatches 0; Indels 0; Gaps 0;			Best Local Similarity 100.0%; Score 754; DB 20; Length 345;	
Matches 136; Conservative 0; Mismatches 0; Indels 0; Gaps 0;			QY 1 LDLEDLYPTWQLGKAFYGRKSRYVDLNLTEFVRLYSCTPRNFSTREELKRTDTI 60	

Db 210 Idledlyrptwllgkafvfgrksrvdnliteevrlscptprfsvsireelkrtdti 269  
 Qy 61 FWPGLCLIVKRCGSGNACCLHNNECOCVPSKTVTKYHEVILQLRPTGVRLHKSLTDVAL 120  
 XX ||||||| ||||| ||||| ||||| ||||| ||||| ||||| |||||  
 Db 270 fwpglclivkrcgsgnacclhnneccqcvpskttkyhevllqlrpktgvrlhkstval 329  
 Qy 121 EHHEBCDCVRGSRTGG 136  
 XX ||||||| ||||| |||||  
 Db 330 ehheecdccvrgstgg 345

RESULT 6  
 AB48657 standard; Protein; 345 AA.  
 XX  
 AC AAB48657;  
 XX 09-MAR-2001 (first entry)  
 DE Human zvegf3, SEQ ID NO:33.  
 XX Human; zvegf3; zvegf4 fusion; growth factor homologue; VEGF/PDGF family;  
 KW CUB domain; PDGF-like activity; mitogenic; osteogenic;  
 KW neovascularisation; tissue repair; proliferation; differentiation;  
 KW liver damage; neuroregeneration; Alzheimer's disease; multiple sclerosis;  
 KW periodontal disease; bone fracture; wound healing; vulnerability; ischaemia;  
 KW immunomodulation; hepatic.  
 OS Homo sapiens.  
 XX WO2000066736-A1.  
 XX PD 09-NOV-2000.  
 XX PF 03-MAY-2000; 2000WO-US40047.  
 XX PR 03-MAY-1999; 99US-0304216.  
 PR 10-MAY-1999; 99US-0164463.  
 PR 04-FEB-2000; 2000US-0180169.  
 XX PA (ZYMO ) ZYMOGENETICS INC.  
 PT Gilbert T, Hart CE, Sheppard PO, Gilbertson DG;  
 XX DR WPI; 2000-687541/67.  
 DR N-PSDB; AAC81582.  
 PT Growth factor homologs and the nucleic acids that encode them, useful  
 PT e.g. for treating liver damage, ischemia, multiple sclerosis and  
 PT Alzheimer's disease -  
 XX PS Claim 48; Page 125-126; 143pp; English.  
 XX The invention relates to the human growth factor homologue zvegf4  
 CC (AAC8155), and nucleic acids encoding it (AAC8155). Zvegf4 is a member  
 CC of the PDGF (platelet-derived growth factor)/VEGF (vascular endothelial  
 CC growth factor) family. Zvegf4 has a growth factor domain (AAB48554)  
 CC characterised by a PDGF cystine knot structure, and a CUB domain  
 CC (AAB48555) which has a beta barrel structure. Zvegf4 has PDGF-like  
 CC activity, having mitogenic activity on fibroblasts, vascular smooth  
 CC muscle cells and pericytes, and has also been shown to stimulate bone  
 CC growth. The invention also relates to fusion proteins comprising human  
 CC zvegf4 or fragments thereof, particularly human zvegf4/human zvegf3  
 CC fusions; expression constructs and host cells comprising human zvegf4  
 CC nucleic acids; the recombinant expression of human zvegf4; an antibody  
 CC which binds to human zvegf4 or a fragment thereof; a method of activating  
 CC a cell surface PDGF receptor using a zvegf4 derived polypeptide; a  
 CC method of modulating the proliferation, differentiation, migration or  
 CC metabolism of bone cells, comprising exposing bone cells to  
 CC zvegf4 derived polypeptides; and a method of detecting a genetic  
 CC abnormality in the zvegf4 gene of a patient. Zvegf4 proteins and derived  
 CC fragments may be used to stimulate tissue development or repair, or  
 CC cellular differentiation or proliferation. They are particularly used for

CC the treatment or repair of liver damage, and may also be used to  
 CC modulate neurite growth (e.g., in the treatment of Alzheimer's disease or  
 CC multiple sclerosis). Due to their osteogenic activity, they may be used  
 CC in the treatment of periodontal disease and fractures.  
 CC used to enhance expansion and mobilisation of haematopoietic stem cells  
 CC and endothelial precursor stem cells, which may be useful in the  
 CC treatment of ischaemia, in wound healing, and in the modulation of the  
 CC immune system. The present sequence represents human zvegf3.  
 XX SQ Sequence 345 AA;

Query Match 100.0%; Score 754; DB 21; Length 345;  
 Best Local Similarity 100.0%; Pred. No. 4.7e-71;  
 Matches 136; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 LDLEDLYRPTWOLLGKAFVFGRKSRVVDNLTEEVRLYSCPTPRNFVSYSIREELKRDTI 60  
 Db 210 idledlyrptwllgkafvfgrktsrvdnliteevrlscptprnfvsireelkrdti 269

Qy 61 FWPGCLLVKRCGSGNACCLHNNECOCVPSKTVTKYHEVILQLRPTGVRLHKSLTDVAL 120  
 Db 270 Fwpgcllvkrcgsgnacclhnneccqcvpskttkyhevllqlrpktgvrlhksltval 329

RESULT 7  
 AAB24250 DT 08-FEB-2001 (first entry)  
 ID AAB24250 standard; Protein; 345 AA.  
 XX AC AAB24250;  
 XX DE Human platelet-derived growth factor related protein LP8.  
 XX KW Human; platelet derived growth factor related protein; LP8; VEGFh;  
 KW vascular endothelial growth factor h; tissue regeneration; vulnerability;  
 KW atherosclerosis; PDGF-related protein; antiarteriosclerotic.  
 XX OS Homo sapiens.  
 XX PN WC2000059940-A2.  
 XX PD 12-OCT-2000.  
 XX PF 24-MAR-2000; 2000WO-US06427.  
 XX PR 06-APR-1999; 99US-0127913.  
 XX PA (ELIL ) LILLY & CO ELI.  
 XX PI Hammond LJ, Na S;  
 XX DR WPI; 2000-684991/64.  
 DR N-PSDB; AAC4426.  
 PT Enhancing tissue growth and promoting wound healing by administering  
 PT platelet-derived growth factor related protein, LP8 or its analog and  
 PT treating atherosclerosis by administering LP8 antagonist -  
 XX PS Claim 4; Page 63-64; 64pp; English.  
 XX The present invention describes a method for enhancing tissue growth,  
 CC promoting wound healing or stimulating smooth muscle growth by  
 CC administering a platelet-derived growth factor (PDGF) related protein,  
 CC designated LP8 or its analogue. Also described is a method of slowing  
 CC the progress of atherosclerosis or treating atherosclerosis comprising  
 CC the administration of an LP8 antagonist. The method is useful for  
 CC enhancing tissue growth, promoting wound healing and stimulating smooth

muscle growth. Antagonists of LP8 are useful for treating atherosclerosis. The present sequence represents human LP8, which is also called VEGFH.

DR N-PSDB; AAC78582.	
XX	
XX	Novel PRO polypeptides and polynucleotides used in detection methods;
PT	to target bioactive molecules to specific cells, and to modulate
PT	cellular activities -
XX	
PS	Claim 12; Fig 207: 636pp; English.
XX	AAC7858 to AAC78599 represent polynucleotide and BST (expressed
CC	sequence tag) sequences which encode secreted or transmembrane PRO
CC	polypeptides. The PRO polynucleotides and polypeptides have cytostatic
CC	activity. The polynucleotides and polypeptides can be used for detecting
CC	the presence of PRO polypeptides in samples for linking bioactive
CC	molecules to cells and for modulating biological activities of cells,
CC	using the polypeptides for specific targeting. The polypeptide targeting
CC	can be used to kill the target cells, e.g., for the treatment of cancer.
CC	The polypeptide pairs provide specific targeting of bioactive molecules
CC	to cells. AAC78600 to AAC78987 represent PCR primers and probes used in
CC	the isolation of the PRO polynucleotide sequences.
XX	
SQ Sequence 345 AA;	Sequence 345 AA;
Query Match 100.0%; Score 754; DB 21; Length 345;	
Best Local Similarity 100.0%; Pred. No. 4.e-71;	
Matches 136; Conservative 0; Mismatches 0; Indels 0; Gaps 0;	
1 LQEDLRPTWQIGKARVFGRSRVDNLNLRLTDTI 60	
LQEDLRPTWQIGKARVFGRSRVDNLNLRLTDTI	
210 lQEDLRPTWQIGKARVFGRSRVDNLNLRLTDTI       lQEDLRPTWQIGKARVFGRSRVDNLNLRLTDTI 269	
61 FWPGCLVKRQCGNACCLHNNECOQCVPSKTVKTYHEVQLRLPKTGVRGLHKSTIDVAL 120	
FWPGCLVKRQCGNACCLHNNECOQCVPSKTVKTYHEVQLRLPKTGVRGLHKSTIDVAL	
270 fwpgclvkrcgnaccLhnnecoqcvpskvtkyhevqlrlpktgvrghksitdval 329	
121 EHHEECDCVCRCSTGG 136	
EHHEECDCVCRCSTGG	
330 ehheecdcvcrcstgg 345	

SULT\_8  
B44322 AAB44322 standard; Protein; 345 AA.  
AAB44322;  
08-FEB-2001 (first entry)  
Human PRO200 (UNQ174) protein sequence SEQ ID NO:488.  
Human; secreted protein; transmembrane protein; PRO; EST; cytostatic; expressed sequence tag; detection; cancer.  
Homo sapiens.

Query Match						
Best Local Similarity		Score		Length		
Matches 136;		100 %;		345;		
Conservative		Pred. No.		4.7e-71;		
Qy	1	LDLEDLYRPWQLLGKAFTGRKSRVVDLNLTEEVRLYSCTPRNFSVSREELKRTDTI	60			
Db	210	ldledlyrpwqllgkaftgrksrvvdlnlteevrlystctprnfsvsreelkrtdti	269			
Qy	61	FPGCLLVKRQGGNCACCLHCNECCOPSKVTKYHEVYLQRPKTGVRQLHKSSTDVAL	120			
Db	270	fpgcllvkrqgnacc1hcneccopskvtkyhev1qrpktgv91hksstdval	329			
Qy	121	EHHEECDYCVRGSTGG	136			
Db	330	ehheecdycvrgstgg	345			
RESULT						
AAB10633	ID	AAB10633 standard	Protein	345	AA.	
XX	AC	AAB10633;				
XX	DT	19-JAN-2001	(first entry)			
XX	DE	Human RACE generated VEGF-X protein.				
XX	KW	VEGF-X; vascular endothelial growth factor; human; vulnerability; cyostatic;				
KW	KW	antiheumatic; antiarthritic; antipsoriatic; antidiabetic; treatment;				
KW	KW	angiogenesis regulator; vascularization regulator; cancer; psoriasis;				
KW	KW	rheumatoid arthritis; diabetic retinopathy; blood vessel; organ repair;				
KW	KW	tissue regeneration; tissue repair; wound; dermal ulcer; pressure sore;				
KW	KW	venous sore; diabetic ulcer; burns; skin graft growth.				

02-DEC-1999;	99WO-US28565.	XX
16-DEC-1999;	99WO-US30095.	OS
30-DEC-1999;	99WO-US31243.	XX
30-DEC-1999;	99WO-US31274.	PN
05-JAN-2000;	2000WO-US00219.	XX
06-JAN-2000;	2000WO-US00277.	PD
06-JAN-2000;	2000WO-US00376.	XX
(GETH ) GENENTECH INC.		PP
Ashkenazi AJ, Baker KP, Botstein D, Desnoyers L, Eaton DL; Ferrara N, Filvaroff E, Fong S, Gao W, Gerber H, Gerritsen ME; Godowski PJ, Grimaldi CJ, Gurney AL, Hillian KJ; Klagsjain IJ, Kuo SS, Napier MA, Pan J, Paoni NF, Roy MA; Shelton DL, Stewart TA, Tumas D, Williams PM, Wood WI;		21-DEC-1999;
(JANC ) JANSSEN PHARM NV.		XX
Gordon RD, Sprengel JJ, Yobsen CN		PR
WPI: 2000-611443-58		PR

XX	PR 18-MAR-1999;	99US-0124967.
DR N-PSDB; AAA1951.	PR 08-NOV-1999;	99US-0164131.
XX	PA (JAN C) JANSEN PHARM NV.	
PT	XX	
PT	PI Gordon RD, Sprengel JJ, Yon JR, Dijkmans JJJ,	Gosiewska A;
PT	PI Dhanaraj SN, Xu J;	
XX	XX	
PS	DR WPI: 2000-442669/38.	
XX	DR N-PSDB; AAA71952.	
CC	XX	
CC	PT New vascular endothelial growth factor protein, useful for treating or preventing diseases associated with inappropriate angiogenesis activity such as cancer, rheumatoid arthritis, psoriasis and wounds -	
CC	PT preventing diseases associated with inappropriate angiogenesis activity such as cancer, rheumatoid arthritis, psoriasis and wounds -	
CC	XX	
CC	PS Disclosure; Fig 6; 127pp; English.	
CC	XX	
CC	This invention describes a novel vascular endothelial growth factor-X (VEGF-X) protein (IIA) and its encoding polynucleotide (IIA) which has vulnerability, cytostatic, antiarthritic, antipsoriatic and antidiabetic activity and acts as an angiogenesis and vascularization regulator. An antisense molecule of the invention is useful for treating or preventing cancer, rheumatoid arthritis, psoriasis and diabetic retinopathy by inhibiting angiogenic activity or inappropriate vascularization including formation and proliferation of new blood vessels, growth and development of tissues, tissue regeneration and organ and tissue repair in a subject. The products of the invention are useful for preparing medicaments for treating wounds such as dermal ulcers, pressure sores, diabetic sores and burns and to promote skin graft growth, tissue repair, proliferation of new blood vessels, tissue regeneration and organ repair by promoting angiogenic activity or vascularization. This sequence represents the human VEGF-X protein described in the method of the invention.	
CC	XX	
CC	Sequence 345 AA;	
Qy	Query Match 100.0%; Score 754; DB 21; Length 345;	
Qy	Best Local Similarity 100.0%; Pred. No. 4.7e-71;	
Qy	Matches 136; Conservative 0; Mismatches 0; Indels 0; Gaps 0;	
Db	XX	
Qy	1 LDLEDLYRPTWQLLGRAFEGRRSRVIDLNLTEEVRLYSCTPRNFVSYSIREELKRTDTI 60	
Db	210 fmpgcllykrgcgnacclhnmcocvpsktkkhyevlqlrpktgvrlqhglnsltdval 269	
Qy	61 fmpgcllykrgcgnacclhnmcocvpsktkkhyevlqlrpktgvrlqhglnsltdval 120	
Db	270 fwpgcllvkrgcgnaccclhnmcocvpsktkkhyevlqlrpktgvrlqhglnsltdval 329	
Qy	121 EHHEECDCVCRGSGTGG 136	
Db	330 ehheecdcvrgstgg 345	
RESULT 10	XX	
AB10634	AC AAB10634 Standard; Protein: 345 AA.	
DT 19-JAN-2001	(first entry)	
DE Human VEGF-X homologue protein.		
XX	XX	
XX	KW VEGF-X; vascular endothelial growth factor; human; vulnernary; cytosstatic; antirheumatic; antipsoriatic; antidiabetic; treatment; angiogenesis regulator; vascularization regulator; cancer; psoriasis; rheumatoid arthritis; diabetic retinopathy; blood vessel; organ repair; tissue regeneration; tissue repair; wound; dermal ulcer; pressure sore; venous sore; diabetic ulcer; burns; skin graft growth.	
XX	XX	
OS Homo sapiens.	KW vascular endothelial growth factor; human; vulnernary; cytosstatic;	
XX	KW antirheumatic; antiarthritic; antipsoriatic; antidiabetic; treatment;	
PN WO200037641-A2.	KW angiogenesis regulator; vascularization regulator; cancer; psoriasis;	
XX	KW rheumatoid arthritis; diabetic retinopathy; blood vessel; organ repair;	
PD 29-JUN-2000.	KW tissue regeneration; tissue repair; wound; dermal ulcer; pressure sore; venous sore; diabetic ulcer; burns; skin graft growth.	
XX	XX	
PF 21-DEC-1999;	PR Homo sapiens.	
XX	OS 99WO-US30503.	
PR 22-DEC-1998;	PR 98GB-0028377.	

PN WO200037641-A2.  
 XX  
 PD 29-JUN-2000.  
 XX  
 PF 21-DEC-1999; 99WO-US30503.  
 XX  
 PR 22-DEC-1998; 98GB-0028377.  
 PR 18-MAR-1999; 99US-0124967.  
 PR 08-NOV-1999; 99US-0164131.  
 XX  
 PA (JANCS ) JANSSEN PHARM NV.  
 XX  
 PI Gordon RD, Sprengel JJ, Yon JR, Dijkmans JJJH, Gosiewska A;  
 Dhanaraj SN, Xu J;  
 XX  
 DR WPI; 2000-442665/38.  
 N-PSDB; AAA71955.  
 XX  
 PT New vascular endothelial growth factor protein, useful for treating or preventing diseases associated with inappropriate angiogenesis activity such as cancer, rheumatoid arthritis, psoriasis and wounds -  
 PT  
 PT  
 PT  
 XX  
 Disclosure; Fig 9; 127pp; English.  
 XX  
 This invention describes a novel vascular endothelial growth factor-X (VEGF-X) protein (1a) and its encoding polynucleotide (1la) which has pulmonary, cycostatic, antirheumatic, antiarthritic, antipsoriatic and antidiabetic activity and acts as an angiogenesis and vascularization regulator. An antisense molecule of the invention is useful for treating or preventing cancer, rheumatoid arthritis, psoriasis and diabetic retinopathy by inhibiting angiogenic activity or inappropriate vascularization including formation and proliferation of new blood vessels, growth and development of tissues, tissue regeneration and organ and tissue repair in a subject. The products of the invention are useful for preparing medicaments for treating wounds such as dermal ulcers, pressure sores, venous sores, diabetic ulcers and burns and to promote skin graft growth, tissue repair, proliferation of new blood vessels, tissue regeneration and organ repair by promoting angiogenic activity or vascularization. This sequence represents the human VEGF-X protein isolated from clones 4 and 7 described in the method of the invention.  
 XX  
 Sequence 345 AA;

Query Match 100.0%; Score 754; DB 21; Length 345;  
 Best Local Similarity 100.0%; pred. No. 4.7e-1;  
 Matches 136; Conservative 0; Mismatches 0; Gaps 0;  
 Qy 1 LDLEDLYRPWQQLGKAFVGRKSRYVDLNLTTEEVRLYSCTPRNFSVSTRELKRTDTI 60  
 Db 210 ldledlyrpwqqlgkafvgrksryvdlnltteevrllysctprnfsireelkrtdti 269

Qy 61 FWPAGCLLVKRCGGNCACCLHNCNECQCVPSKVTKKYHEVYLQLRPKTGVRGLHKSLTDVAL 120  
 Db 270 fwpgcllvkrcggncacclhncneccqcvpskvtkkyhevylqrpktegvrgihksldval 329

Qy 121 EHHEECDVCRGSMG 136  
 Db 330 ehheecdvcrgstg 345

RESULT 12  
 AAB10636  
 ID AAB10636 standard; Protein; 345 AA.  
 XX  
 AC AAB10636;  
 DT 19-JAN-2001 (first entry)  
 XX  
 DE Human VEGF-X protein #2 isolated from clones 4 and 7.  
 XX  
 KW VEGF-X; vascular endothelial growth factor; human; vulnerary; cyostatic; antirheumatic; antiarthritic; antipsoriatic; treatment;

KW angiongenesis regulator; vascularization regulator; cancer; psoriasis; rheumatoid arthritis; diabetic retinopathy; blood vessel; organ repair; tissue regeneration; tissue repair; dermal ulcer; wound; dermal ulcer; pressure sore; venous sore; diabetic ulcer; burns; skin graft growth.

KW Homo sapiens.  
 OS Homo sapiens.  
 PN WO200037641-A2.  
 XX  
 PD 29-JUN-2000.  
 XX  
 PF 21-DEC-1999; 99WO-US30503.  
 XX  
 PR 22-DEC-1998; 98GB-0028377.  
 PR 18-MAR-1999; 99US-0124967.  
 PR 08-NOV-1999; 99US-0164131.  
 XX  
 PA (JANCS ) JANSSEN PHARM NV.  
 XX  
 PI Gordon RD, Sprengel JJ, Yon JR, Dijkmans JJJH, Dhanaraj SN, Xu J;  
 PI  
 DR WPI; 2000-442669/38.  
 DR N-PSDB; AAA71955.  
 XX  
 PT New vascular endothelial growth factor protein, useful for treating or preventing diseases associated with inappropriate angiogenesis activity such as cancer, rheumatoid arthritis, psoriasis and wounds -  
 PT  
 PS Claim 1; Fig 10; 127pp; English.  
 XX  
 CC This invention describes a novel vascular endothelial growth factor-X (VEGF-X) protein (1a) and its encoding polynucleotide (1la) which has vulnerability, cycostatic, antirheumatic, antiarthritic, antipsoriatic and antidiabetic activity and acts as an angiogenesis and vascularization regulator. An antisense molecule of the invention is useful for treating or preventing cancer, rheumatoid arthritis, psoriasis and diabetic retinopathy by inhibiting angiogenic activity or inappropriate vascularization including formation and proliferation of new blood vessels, growth and development of tissues, tissue regeneration and organ and tissue repair in a subject. The products of the invention are useful for preparing medicaments for treating wounds such as dermal ulcers, pressure sores, venous sores, diabetic ulcers and burns and to promote skin graft growth, tissue repair, proliferation of new blood vessels, tissue regeneration and organ repair by promoting angiogenic activity or vascularization. This sequence represents the human VEGF-X protein isolated from clones 4 and 7 described in the method of the invention.  
 CC  
 SQ Sequence 345 AA;

Query Match 100.0%; Score 754; DB 21; Length 345;  
 Best Local Similarity 100.0%; Pred. No. 4.7e-71;  
 Matches 136; Conservative 0; Mismatches 0; Gaps 0;

Qy 1 LDLEDLYRPWQQLGKAFVGRKSRYVDLNLTTEEVRLYSCTPRNFSVSTRELKRTDTI 60  
 Db 210 ldledlyrpwqqlgkafvgrksryvdlnltteevrllysctprnfsireelkrtdti 269

Qy 61 FWPAGCLLVKRCGGNCACCLHNCNECQCVPSKVTKKYHEVYLQLRPKTGVRGLHKSLTDVAL 120  
 Db 270 fwpgcllvkrcggncacclhncneccqcvpskvtkkyhevylqrpktegvrgihksldval 329

Qy 61 FWPGCLLVKRCGGNCACCLHNCNECQCVPSKVTKKYHEVYLQLRPKTGVRGLHKSLTDVAL 120  
 Db 270 fwpgcllvkrcggncacclhncneccqcvpskvtkkyhevylqrpktegvrgihksldval 329

Qy 121 EHHEECDVCRGSMG 136  
 Db 330 ehheecdvcrgstg 345

RESULT 13  
 AAB10644  
 ID AAB10644 standard; Protein; 345 AA.  
 XX  
 AC AAB10644;  
 DT 19-JAN-2001 (first entry)  
 XX  
 DE Human VEGF-X protein #2 isolated from clones 4 and 7.  
 XX  
 KW VEGF-X; vascular endothelial growth factor; human; vulnerary; cyostatic; antirheumatic; antiarthritic; antipsoriatic; treatment;

XX DT 19-JAN-2001 (first entry)

XX DE Human VEGF-X protein #4.

XX KW VEGF-X; vascular endothelial growth factor; human; vulnerable; cytostatic; antiarthritic; antipsoriatic; antidiabetic treatment; angiogenesis regulator; vascularization regulator; cancer; psoriasis; rheumatoid arthritis; diabetic retinopathy; blood vessel; organ repair; tissue regeneration; tissue repair; wound; dermal ulcer; pressure sore; venous sore; diabetic ulcer; burns; skin graft growth.

XX OS Homo sapiens.

XX PN WO200037641-A2.

XX PD 29-JUN-2000.

XX PF 21-DEC-1999; 99WO-US30503.

XX PR 22-DEC-1998; 98GB-0028377.

PR 18-MAR-1999; 99US-0124967.

PR 08-NOV-1999; 99US-0164131.

XX PA (JANC ) JANSSEN PHARM NV.

XX PI Gordon RD, Sprengel JJ, Yon JR, Dijkmans JJJ, Gosiewska A;

PT Dhanaraj SN, Xu J;

XX WPI; 2000-442669/38.

DR N-PSDB; AAA71990.

XX PT New vascular endothelial growth factor protein, useful for treating or preventing diseases associated with inappropriate angiogenesis activity such as cancer, rheumatoid arthritis, psoriasis and wounds -

XX PS Disclosure; Fig 30B; 127pp; English.

XX This invention describes a novel vascular endothelial growth factor-X (VEGF-X) protein (Ia) and its encoding polynucleotide (IIa) which has vulnerability cytostatic, antirheumatic, antipsoriatic and antidiabetic activity and acts as an angiogenesis and vascularization regulator. An antisense molecule of the invention is useful for treating or preventing cancer, rheumatoid arthritis, psoriasis and diabetic retinopathy by inhibiting angiogenic activity or inappropriate vascularization including formation and proliferation of new blood vessels, growth and development of tissues, tissue regeneration and organ and tissue repair in a subject. The products of the invention are useful for preparing medicaments for treating wounds such as dermal ulcers, pressure sores, venous sores, diabetic ulcers and burns and to promote skin graft growth, tissue repair, proliferation of new blood vessels, tissue regeneration and organ repair by promoting angiogenic activity or vascularization. This sequence represents a human VEGF-X protein described in the method of the invention.

XX Sequence 345 AA;

Query Match 100.0%; Score 754; DB 21; Length 345;  
Best Local Similarity 100.0%; Pred. No. 4.7e-71;  
Matches 136; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 LDLEDLYRPTWQLLGKAFFVGRKSRVVDLNLTTEEVRLYSCTPRNFVSIREELKRTDTI 60  
Db 210 ldledlyrptwqllgkafvgrksrvvdlnltteevrlysctprnfvsireelkrtdti 269

Qy 61 FWPGCCLIVKRCGGNCACCLHNCGNECQCVPSKTTKYHVLQRPKTGYGLKKSLLTDVAL 120  
Db 270 fwpgcclivkrcggncacclhnncqcvpskvvkkynevlgqrpktgrrglhsltdval 329

Qy 1 EHHEECDCVCRGSTGG 136  
Db 330 ehheecdcvcrgstgg 345

Qy 1 LDLEDLYRPTWQLLGKAFFVGRKSRVVDLNLTTEEVRLYSCTPRNFVSIREELKRTDTI 60  
Db 210 ldledlyrptwqllgkafvgrksrvvdlnltteevrlysctprnfvsireelkrtdti 269

Qy 61 FWPGCCLIVKRCGGNCACCLHNCGNECQCVPSKTTKYHVLQRPKTGYGLKKSLLTDVAL 120  
Db 270 fwpgcclivkrcggncacclhnncqcvpskvvkkynevlgqrpktgrrglhsltdval 329

Qy 1 LDLEDLYRPTWQLLGKAFFVGRKSRVVDLNLTTEEVRLYSCTPRNFVSIREELKRTDTI 60  
Db 210 ldledlyrptwqllgkafvgrksrvvdlnltteevrlysctprnfvsireelkrtdti 269

Qy 61 FWPGCCLIVKRCGGNCACCLHNCGNECQCVPSKTTKYHVLQRPKTGYGLKKSLLTDVAL 120

RESULT 15  
 AAB10651 standard; Protein; 345 AA.  
 XX  
 AC AAB10651;  
 XX  
 DT 19-JAN-2001 (first entry)  
 DE Human VEGF-X protein #3.  
 XX  
 VEGF-X; vascular endothelial growth factor; human; vulnery; cytostatic;  
 KW antirheumatic; antiarthritic; antipsoriatic; antidiabetic; treatment;  
 KW angiogenesis regulator; vascularization regulator; cancer; psoriasis;  
 KW rheumatoid arthritis; diabetic retinopathy; blood vessel; organ repair;  
 KW tissue regeneration; tissue repair; wound; dermal ulcer; pressure sore;  
 KW venous sore; diabetic ulcer; burns; skin graft growth.  
 OS Homo sapiens.  
 XX  
 PN WO200037641-A2.  
 XX  
 PD 29-JUN-2000.  
 XX  
 PF 21-DEC-1999; 99WO-US30503.  
 XX  
 PR 22-DEC-1998; 98GB-0028377.  
 PR 18-MAR-1999; 99US-0124567.  
 PR 08-NOV-1999; 99US-0164131.  
 XX  
 PA (JANCS ) JANSSEN PHARM NV.  
 PI Gordon RD, Sprengel JJ, Yon JR, Dijkmans JJH, Gosiewska A;  
 PI Dhanaraj SN, Xu J;  
 XX  
 DR 2000-442669/38.  
 XX  
 PT New vascular endothelial growth factor protein, useful for treating or  
 PT preventing diseases associated with inappropriate angiogenesis activity  
 PT such as cancer, rheumatoid arthritis, psoriasis and wounds -  
 XX  
 PS Claim 72; Fig 12; 127pp; English.  
 XX  
 CC This invention describes a novel vascular endothelial growth factor-X  
 CC (VEGF-X) protein (ta) and its encoding polynucleotide (TIA) which has  
 CC vulnery, cytostatic, antirheumatic, antiarthritic, antipsoriatic and  
 CC antidiabetic activity and acts as an angiogenesis and vascularization  
 CC regulator. An antisense molecule of the invention is useful for treating  
 CC or preventing cancer, rheumatoid arthritis, psoriasis and diabetic  
 CC retinopathy by inhibiting angiogenic activity or inappropriate  
 CC vascularization including formation and proliferation of new blood  
 CC vessels, growth and development of tissues, tissue regeneration and organ  
 CC and tissue repair in a subject. The products of the invention are useful  
 CC for preparing medicaments for treating wounds such as dermal ulcers,  
 CC pressure sores, venous sores, diabetic ulcers and burns and to promote  
 CC skin graft growth, tissue repair, proliferation of new blood vessels,  
 CC vascularization and organ repair by promoting angiogenic activity or  
 CC described in the method of the invention.  
 XX Sequence 345 AA;

Query Match 100.0%; Score 754; DB 21; Length 345;  
 Best Local Similarity 100.0%; Pred. No. 4.7e-71;  
 Matches 136; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 LDLEDLYPTWQJGKAFVFGKRSRVDIINLLTEEVRLYSCTPRNFSVSIREELKRTDTI 60  
 Db 210 ldledlyptwqjgkafvfgkrsrvvdinllteevrlysctprnfsvsireelkrtdti 269  
 QY 61 FWPCCLLWKRCGGNCACCLHNCNECQVPSKVTKYHEVQLRPKTGVRLHKSLTDAV 120  
 Db 270 fwpgcllvkrcggncaccchncneqcqpcsktkyhevqlrpktgvrlhksltdav 329  
 QY 121 EHHEECDCVCRGSGG 136  
 Db 330 ehheecdcvcrgstgg 345

Search completed: August 18, 2001, 01:49:50  
 Job time: 2231 sec



GenCore version 4.5  
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OM protein - protein search, using sw model

Run on: August 18, 2001, 01:15:44 ; Search time 54.67 Seconds  
(without alignments)  
51.222 Million cell updates/sec

Title: US-09-457-066-2\_COPY\_210\_345  
Perfect score: 754  
Sequence: 1 LDLEDLYRPTWQLGKAFVF.....DVALEHHEECDVCVRGSTGG 136

Scoring table: BLOSUM62  
Gapext 0.5

Searched: 197339 seqs, 20590346 residues

Total number of hits satisfying chosen parameters: 197339

Minimum DB seq length: 0  
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%  
Maximum Match 100%  
Listing first 45 summaries

Sequence 15, Appli  
Sequence 15, Appli  
Sequence 2, Appli  
Sequence 3, Appli  
Sequence 4, Appli  
Sequence 18, Appli  
Sequence 1, Appli  
Patent No. 5498600  
Sequence 1, Appli  
Patent No. 5428135  
Sequence 2, Appli  
Sequence 25, Appli  
Sequence 2, Appli  
Sequence 25, Appli  
Sequence 1, Appli  
Sequence 1, Appli  
Sequence 3, Appli

## ALIGNMENTS

RESULT 1  
US-08-915-795-9  
; Sequence 9, Application US/08915795  
; Patent No. 6235713

GENERAL INFORMATION:

APPLICANT: Marc G. ACHEN  
APPLICANT: Andrew F. WILKS  
APPLICANT: Steven A. STACKER  
APPLICANT: Kari ALITALO  
TITLE OF INVENTION: GROWTH FACTOR  
NUMBER OF SEQUENCES: 11  
CORRESPONDENCE ADDRESS:  
ADDRESSEE: Evenson, McKeown, Edwards & Lenahan P.L.L.C.  
STREET: 1200 G Street, NW, Suite 700  
CITY: Washington  
STATE: DC  
COUNTRY: United States of America  
ZIP: 20005

CURRENT APPLICATION DATA:

COMPUTER READABLE FORM:

MEDIUM TYPE: Floppy disk

COMPUTER: IBM PC compatible

OPERATING SYSTEM: PC-DOS/MS-DOS

SOFTWARE: Patent Release #1.0, Version #1.25

APPLICATION NUMBER: US/08/915,795

FILING DATE:

ATTORNEY/AGENT INFORMATION:

NAME: EVANS, Joseph D.

REGISTRATION NUMBER: 26,269

REFERENCE/DOCKET NUMBER: 106/42983

TELECOMMUNICATION INFORMATION:

TELEPHONE: (202) 628-8800

TELEFAX: (202) 628-8844

INFORMATION FOR SEQ ID NO: 9:

SEQUENCE CHARACTERISTICS:

LENGTH: 321 amino acids

TYPE: amino acid

STRANDEDNESS: single

TOPOLOGY: linear

MOLECULE TYPE: protein

ORIGINAL SOURCE:

TISSUE TYPE: Mouse Lung

US-08-915-795-9

Result No.	Score	Query Match	Length	DB ID	Description
1	119.5	15.8	321	4	US-08-915-795-9
2	119.5	15.8	358	4	US-08-915-795-8
3	116	15.4	325	4	US-08-915-795-3
4	116	15.4	354	4	US-08-915-795-5
5	114.5	15.2	256	6	5175255-9
6	110	14.6	190	6	5175255-8
7	110	14.6	220	6	5175255-4
8	110	14.6	241	1	US-08-387-845-4
9	110	14.6	241	2	US-08-999-811-6
10	110	14.6	241	2	US-08-778-275-4
11	110	14.6	241	2	US-08-824-996-8
12	110	14.6	241	3	US-08-989-2352-25
13	110	14.6	241	3	US-09-042-105-6
14	110	14.6	241	3	US-08-867-352-4
15	110	14.6	241	4	US-09-340-250-29
16	110	14.6	241	4	US-08-795-430-54
17	110	14.6	241	5	PCT-US96-09001-9
18	110	14.6	241	6	5194596-15
19	110	14.6	241	6	5219739-15
20	107	14.2	205	3	US-08-989-251-27
21	107	14.2	205	3	US-09-340-250-27
22	107	14.2	205	3	US-09-340-250-27
23	107	14.2	205	3	US-09-340-250-37
24	105.5	14.0	188	1	US-08-469-427A-11
25	105.5	14.0	188	2	US-08-609-443B-11
26	105.5	14.0	188	2	US-08-569-063C-11
27	105.5	14.0	188	4	US-08-795-430-57

Query Match Score 119.5; DB 4; Length 321;  
Best Local Similarity 33.3%; Pred. No. 2e-05;  
Matches 36; Conservative 15; Mismatches 42; Indels 15; Gaps 6;

RESULT 2  
 US-08-915-795-8  
 ; Sequence 8, Application US/08915795  
 ; GENERAL INFORMATION:  
 ; APPLICANT: Marc G. ACHEN  
 ; APPLICANT: Andrew F. WILKS  
 ; APPLICANT: Steven A. STACKER  
 ; APPLICANT: Kari ALITALO.  
 ; TITLE OF INVENTION: GROWTH FACTOR  
 ; NUMBER OF SEQUENCES: 11  
 ; CORRESPONDENCE ADDRESS:  
 ; ADDRESSEE: Evenson, McKeown, Edwards & Lenahan P.L.L.C.  
 ; STREET: 1200 G Street, NW, Suite 700  
 ; CITY: Washington  
 ; STATE: DC  
 ; COUNTRY: United States of America  
 ; ZIP: 20005  
 ; COMPUTER READABLE FORM:  
 ; MEDIUM TYPE: Floppy disk  
 ; COMPUTER: IBM PC compatible  
 ; OPERATING SYSTEM: PC-DOS/MS-DOS  
 ; SOFTWARE: PatentIn Release #1.0, Version #1.25  
 ; CURRENT APPLICATION DATA:  
 ; APPLICATION NUMBER: US/08/915,795  
 ; FILING DATE:  
 ; CLASSIFICATION: 536  
 ; ATTORNEY/AGENT INFORMATION:  
 ; NAME: EVANS, Joseph D.  
 ; REGISTRATION NUMBER: 26,269  
 ; REFERENCE/DOCKET NUMBER: 1064/42983  
 ; TELECOMMUNICATION INFORMATION:  
 ; TELEPHONE: (202) 628-8800  
 ; TELEFAX: (202) 628-8844  
 ; TELEX: N/A  
 ; INFORMATION FOR SEQ ID NO: 3:  
 ; SEQUENCE CHARACTERISTICS:  
 ; LENGTH: 325 amino acids  
 ; TYPE: amino acid  
 ; STRANDEDNESS: single  
 ; TOPOLOGY: linear  
 ; MOLECULE TYPE: protein  
 ; HYPOTHEtical: NO  
 ; ORIGINAL SOURCE:  
 ; TISSUE TYPE: Human Breast  
 ; US-08-915-795-3

Query Match 15.4%; Score 116; DB 4; Length 325;  
 Best Local Similarity 28.3%; Pred. No. 4.9e-05;  
 Matches 43; Conservative 19; Mismatches 56; Indels 34; Gaps 8;

Qy 3 LEDLYRP-----WQL-----LGKAFVFGRKSR-----VVDINNLTEEVRLY 39  
 Db 21 LEEILLRITHSEDWKLRQRRLRKSFSDRSASHRSTRFAATFYDIELTKYIDEENQRT 80

Qy 40 SCTPNNFSVIREBEL-KRTDTIWPGLLUVKRCGGNCACCLHNCNECQC 97  
 Db 81 QCSPRETCVEAVASELGSTNTFFKPCVNFRCGG--CCNEESLICMNTSISYISKQLF 137

Qy 98 EVLQLRPTGYRLHKSLTDVALEHHHEPCDCV 129  
 Db 138 EISV--PLTSV---PELVPKVANHTGCKCL 163

RESULT 4  
 US-08-915-795-5  
 ; Sequence 5, Application US/08915795  
 ; Patent No. 623513  
 ; GENERAL INFORMATION:  
 ; APPLICANT: Marc G. ACHEN  
 ; APPLICANT: Andrew F. WILKS  
 ; APPLICANT: Steven A. STACKER  
 ; APPLICANT: Kari ALITALO.  
 ; TITLE OF INVENTION: GROWTH FACTOR  
 ; NUMBER OF SEQUENCES: 11



Query Match 14.6%; Score 110; DB 6; Length 220;  
 Best Local Similarity 32.9%; Pred. No. 0.00014;  
 Matches 46; Conservative 13; Mismatches 37; Indels 44; Gaps 12;

Qy 2 DLEDLYRPTWQLLGKAFFGRKSRVVDNLNLTT-BEVRLYSCTPRN-FSVSIREELKRT 57  
 Db 51 ELESLAR-----GRS----LGSLTIAECKTRTEVFELS-RRLLDRT 93

Qy 58 DTIF-WPGCLLYKRGGNCACCLHNCNBQVSKVTKYHEVLQLRP---KTVG--- 108  
 Db 94 NANFLWPPCVCVERQCSG--CC--NNRNVQCRPTQV-----QLRPVQVRKIEVRK 140

Qy 109 RGLHKSLSLTDVALEHHHECDC 128  
 Db 141 KPIFKKAT-VTLEDHLACKC 159

RESULT 8  
 US-08-387-845-4  
 ; Sequence 4, Application US/08387845  
 ; Patent No. 5665567

GENERAL INFORMATION:  
 APPLICANT:  
 TITLE OF INVENTION: Preparation of heterodimeric PDGF-AB using a bicistrionic vector system in mammalian cells  
 NUMBER OF SEQUENCES: 16  
 NUMBER OF SEQUENCES: 16  
 COMPUTER READABLE FORM:  
 MEDIUM TYPE: Floppy disk  
 COMPUTER: IBM PC compatible  
 OPERATING SYSTEM: PC-DOS/MS-DOS  
 SOFTWARE: PatentIn Release #1.0, Version #1.25 (EPA)  
 CURRENT APPLICATION DATA:  
 APPLICATION NUMBER: US/08/387,845  
 FILING DATE:  
 CLASSIFICATION: 435  
 SEQUENCE CHARACTERISTICS:  
 LENGTH: 241 amino acids  
 TYPE: amino acid  
 TOPOLOGY: linear  
 MOLECULE TYPE: protein  
 US-08-387-845-4

Query Match 14.6%; Score 110; DB 1; Length 241;  
 Best Local Similarity 32.9%; Pred. No. 0.00015;  
 Matches 46; Conservative 13; Mismatches 37; Indels 44; Gaps 12;

Qy 2 DLEDLYRPTWQLLGKAFFGRKSRVVDNLNLTT-BEVRLYSCTPRN-FSVSIREELKRT 57  
 Db 72 ELESLAR-----GRS----LGSLTIAECKTRTEVFELS-RRLLDRT 114

Qy 58 DTIF-WPGCLLYKRGGNCACCLHNCNBQVSKVTKYHEVLQLRP---KTVG--- 108  
 Db 115 NANFLWPPCVCVERQCSG--CC--NNRNVQCRPTQV-----QLRPVQVRKIEVRK 180

Qy 109 RGLHKSLSLTDVALEHHHECDC 128  
 Db 162 KPIFKKAT-VTLEDHLACKC 180

RESULT 9  
 US-08-999-811-6  
 ; Sequence 6, Application US/08999811  
 ; Patent No. 5932540

GENERAL INFORMATION:  
 APPLICANT: HU-JING-SHAN  
 APPLICANT: ROSEN, CRAIG A.  
 TITLE OF INVENTION: VASCULAR ENDOTHELIAL GROWTH FACTOR 2  
 NUMBER OF SEQUENCES: 15  
 CORRESPONDENCE ADDRESS:

PRIOR APPLICATION DATA:  
APPLICATION NUMBER: 08/387,845  
FILING DATE: 11/11/96  
SEQUENCE CHARACTERISTICS:  
LENGTH: 241 amino acids  
TYPE: amino acid  
TOPOLOGY: linear  
MOLECULE TYPE: protein  
US-08-778-275-4

Query Match 14.6%; Score 110; DB 2; Length 241;  
Best Local Similarity 32.9%; Pred. No. 0.00015;  
Matches 46; Conservative 13; Mismatches 37; Indels 44; Gaps 12;

Qy 2 DILEDLYRPTWQLLGKAFVGRKSRRVVDLNLTT--EEVRLYSCTPRN--FSSVSTREELKRT 57  
Db 72 ELESLAR-----GRS----LGSLTTAEPAMIAECKTRTEVEEIS-RRLIDRT 114

Qy 58 DTIF--WPGCLLVKRCGGNCACCLHNCNECQCVPSKVTKKYHEVLQLRP---KTGV--- 108  
Db 115 NANFLVWPPCVCYQRCSG---CC--NNNRNVQCRPTQV-----QLRPVQVRKIEIVRK 161

Qy 109 RGLHKSLSLTDALEHHBECDC 128  
Db 162 KPIFKKAT-VTLEDHLACKC 180

RESULT 11  
US-08-824-996-8  
Sequence 8, Application US/08824996B  
Patent No. 5935820  
GENERAL INFORMATION:  
APPLICANT: Hu, Jing -Shan  
APPLICANT: Rosen, Craig A.  
APPLICANT: Cao, Liang  
TITLE OF INVENTION: Polynucleotides Encoding Vascular Endothelial Growth Factor 2  
FILE REFERENCE: PFI12DI  
CURRENT APPLICATION NUMBER: US/08/824,996B  
CURRENT FILING DATE: 1997-03-27  
EARLIER APPLICATION NUMBER: 08/207,550  
EARLIER FILING DATE: 1994-03-08  
NUMBER OF SEQ ID NOS: 9  
SOFTWARE ID NO: 8  
LENGTH: 241  
TYPE: PRT  
ORGANISM: Homo sapiens  
US-08-824-996-8

Query Match 14.6%; Score 110; DB 2; Length 241;  
Best Local Similarity 32.9%; Pred. No. 0.00015;  
Matches 46; Conservative 13; Mismatches 37; Indels 44; Gaps 12;

Qy 2 DILEDLYRPTWQLLGKAFVGRKSRRVVDLNLTT--EEVRLYSCTPRN--FSSVSTREELKRT 57  
Db 72 ELESLAR-----GRS----LGSLTTAEPAMIAECKTRTEVEEIS-RRLIDRT 114

Qy 58 DTIF--WPGCLLVKRCGGNCACCLHNCNECQCVPSKVTKKYHEVLQLRP---KTGV--- 108  
Db 115 NANFLVWPPCVCYQRCSG---CC--NNNRNVQCRPTQV-----QLRPVQVRKIEIVRK 161

Qy 109 RGLHKSLSLTDALEHHBECDC 128  
Db 162 KPIFKKAT-VTLEDHLACKC 180

RESULT 12  
US-08-889-251-29  
Sequence 29, Application US/08989251

Patent No. 6017731  
GENERAL INFORMATION:  
APPLICANT: Tekamp-Olson, Patricia  
TITLE OF INVENTION: METHOD FOR EXPRESSION OF HETEROLOGOUS PROTEINS IN YEAST  
NUMBER OF SEQUENCES: 41  
CORRESPONDENCE ADDRESS:  
ADDRESSEE: Bell Seltzer IP Group of Alston & Bird, LLP  
STREET: 3605 Glenwood Ave. Suite 310  
CITY: Raleigh  
STATE: NC  
COUNTRY: US  
ZIP: 27622  
COMPUTER READABLE FORM:  
MEDIUM TYPE: Floppy disk  
COMPUTER: IBM PC compatible  
OPERATING SYSTEM: PC-DOS/MS-DOS  
SOFTWARE: PatentIn Release #1.0, Version #1.30  
CURRENT APPLICATION DATA:  
APPLICATION NUMBER: US/08/989,251  
FILING DATE:  
CLASSIFICATION:  
ATTORNEY/AGENT INFORMATION:  
NAME: Spurill, W. Murray  
REGISTRATION NUMBER: 32,943  
REFERENCE/DOCKET NUMBER: 5784-4  
TELECOMMUNICATION INFORMATION:  
TELEPHONE: 919 420 2202  
TELEFAX: 919 881 3175  
INFORMATION FOR SEQ ID NO: 29:  
SEQUENCE CHARACTERISTICS:  
LENGTH: 241 amino acids  
TYPE: amino acid  
TOPOLOGY: linear  
MOLECULE TYPE: protein  
US-08-989-251-29

Query Match 14.6%; Score 110; DB 3; Length 241;  
Best Local Similarity 32.9%; Pred. No. 0.00015;  
Matches 46; Conservative 13; Mismatches 37; Indels 44; Gaps 12;

Qy 2 DILEDLYRPTWQLLGKAFVGRKSRRVVDLNLTT--EEVRLYSCTPRN--FSSVSTREELKRT 57  
Db 72 ELESLAR-----GRS----LGSLTTAEPAMIAECKTRTEVEEIS-RRLIDRT 114

Qy 58 DTIF--WPGCLLVKRCGGNCACCLHNCNECQCVPSKVTKKYHEVLQLRP---KTGV--- 108  
Db 115 NANFLVWPPCVCYQRCSG---CC--NNNRNVQCRPTQV-----QLRPVQVRKIEIVRK 161

Qy 109 RGLHKSLSLTDALEHHBECDC 128  
Db 162 KPIFKKAT-VTLEDHLACKC 180

RESULT 13  
US-09-042-105-6  
Sequence 6, Application US/09042105  
Patent No. 6040157  
GENERAL INFORMATION:  
APPLICANT: HU, JING-SHAN  
APPLICANT: ROSEN, CRAIG A.  
APPLICANT: CAO, LIANG  
TITLE OF INVENTION: VASCULAR ENDOTHELIAL GROWTH FACTOR 2  
NUMBER OF SEQUENCES: 35  
CORRESPONDENCE ADDRESS:  
ADDRESSEE: STERNE, KESSLER, GOLDSTEIN & FOX  
STREET: 1100 NEW YORK AVENUE  
CITY: WASHINGTON  
STATE: DC  
COUNTRY: USA  
ZIP: 20005  
COMPUTER READABLE FORM:

MEDIUM TYPE: Floppy disk  
 COMPUTER: IBM PC compatible  
 OPERATING SYSTEM: PC-DOS/MS-DOS  
 SOFTWARE: PatentIn Release #1.0, Version #1.30  
 CURRENT APPLICATION DATA:  
 APPLICATION NUMBER: US/09/042,105  
 FILING DATE: HEREWITH  
 CLASSIFICATION:  
 PRIORITY APPLICATION DATA:  
 APPLICATION NUMBER: US 08/207,550  
 FILING DATE: 8-MAR-1994  
 CLASSIFICATION:  
 PRIORITY APPLICATION DATA:  
 APPLICATION NUMBER: US 08/465,968  
 FILING DATE: 06-JUN-1995  
 CLASSIFICATION:  
 PRIORITY APPLICATION DATA:  
 APPLICATION NUMBER: TO BE ASSIGNED  
 FILING DATE: 24-DEC-1997  
 CLASSIFICATION:  
 ATTORNEY/AGENT INFORMATION:  
 NAME: ERIC K. STEFFE  
 REGISTRATION NUMBER: 36,688  
 REFERENCE/DOCKET NUMBER: 1488.1000003/EKS  
 TELECOMMUNICATION INFORMATION:  
 TELEPHONE: (202)371-2600  
 TELEFAX: (202)371-2540  
 INQUIRIES: US 09-042-105-6

Query Match 14 : Score 110; DB 3; Length 241;  
 Best Local Similarity 32.9%; Pred. No. 0.00015;  
 Matches 46; Conservative 13; Mismatches 37; Indels 44; Gaps 12;  
 Qy 2 DIEDLYRPTWQLGKAFYGRKSRVVDLNLTT-EEVRLYSCTPRN-FSVSIRBELKRT 57  
 Db 72 ELESLAR-----GRRS---LGSLTIAEPAMIAECKTRTEVEFEIS-RRLIDRT 114  
 Qy 58 DTIF--WFGCLLVKRCGGNCACCLHNCNECOPSKVTKYHEVLQRP---KTGV---108  
 Db 115 NANFLWNPVCVQRCSG---CC-NNRNVQCRPTQV-----QLRPVQVRKIEVRK 161  
 Qy 109 RGLHKSLS/TDVALEHHEECDC 128  
 Db 162 KPFFKAT-VTLEDHLACKC 180

RESULT 15  
 US-09-340-250-29  
 Sequence 29, Application US/09340250  
 Patent No. 6083123  
 GENERAL INFORMATION:  
 APPLICANT: Tekamp-Olson, Patricia  
 TITLE OF INVENTION: METHOD FOR EXPRESSION OF HETEROLOGOUS  
 NUMBER OF SEQUENCES: 4 1

CORRESPONDENCE ADDRESS:  
 ADDRESSEE: Bell Salter IP Group of Alston & Bird, LLP  
 STREET: 3605 Glenwood Ave. Suite 310  
 CITY: Raleigh  
 STATE: NC  
 ZIP: 27622  
 COMPUTER READABLE FORM:  
 MEDIUM TYPE: Floppy disk  
 COMPUTER: IBM PC compatible  
 OPERATING SYSTEM: PC-DOS/MS-DOS  
 SOFTWARE: PatentIn Release #1.0, Version #1.30  
 CURRENT APPLICATION DATA:  
 APPLICATION NUMBER: US/09/340,250  
 FILING DATE:  
 CLASSIFICATION:  
 PRIOR APPLICATION DATA:  
 APPLICATION NUMBER: 08/989,251  
 FILING DATE:  
 ATTORNEY/AGENT INFORMATION:  
 NAME: Spruill, W. Murray  
 REGISTRATION NUMBER: 32,943  
 REFERENCE/DOCKET NUMBER: 5784-4  
 TELECOMMUNICATION INFORMATION:  
 TELEPHONE: 919 420 2202  
 TELEFAX: 919 881 3175  
 INFORMATION FOR SEQ ID NO: 29:  
 SEQUENCE CHARACTERISTICS:  
 LENGTH: 21 amino acids  
 TYPE: amino acid  
 TOPOLOGY: linear  
 MOLECULE TYPE: protein

RESULT 14 :  
 US 08-867-352-4  
 Sequence 4, Application US/08867352  
 GENERAL INFORMATION:  
 APPLICANT:  
 NUMBER OF SEQUENCES: 25  
 COMPUTER READABLE FORM:  
 MEDIUM TYPE: Floppy disk  
 COMPUTER: IBM PC compatible  
 OPERATING SYSTEM: PC-DOS/MS-DOS  
 SOFTWARE: PatentIn Release #1.0, Version #1.25 (EPA)  
 CURRENT APPLICATION DATA:  
 APPLICATION NUMBER: US/08/867,352  
 FILING DATE:  
 CLASSIFICATION:  
 PRIOR APPLICATION DATA:  
 APPLICATION NUMBER: 08/387,847

Query Match 14 : Score 110; DB 3; Length 241;  
 Best Local Similarity 32.9%; Pred. No. 0.00015;

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	Matches	46;	Conservative	13;	Mismatches	37;	Indels	44;	Gaps	12;
Qy	2	DIEDLYRPTWQLLGKAFVGRKSRRVVDLNLT-		EEVRLYSTCPRN-	--FSVS	STREELKRT	57			
Db	72	ELESLAR-----								114
Qy	58	DTIF--WPGCLLVKRCGNCAACLLHNGNECQVPSKVTKYHEVLQRP--								108
Db	115	NANFLWPPCVEVQRSG---CC--NNRNVQCRPTQV-----								161
Qy	109	RGLHKSLTDVALEHHECDC	1.28							
Db	162	KPIFKKAT-VTILEDHLACKC	1.80							

Search completed: August 18, 2001, 01:50:57  
 Job time: 2113 sec

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OM protein - protein search, using sw model

Run on: August 18, 2001, 01:36:44 ; Search time 58.9 Seconds (without alignments)

175.887 Million cell updates/sec

Title: US-09-457-066-2\_COPY\_210\_345

Perfect score: 754

Sequence: 1 LDLEDLYRPTWQQLGKAFV.....DVALEHHEECDCVCRGSTGG 136

Scoring table: BLOSUM62

Gapop 10.0 , Gapext 0.5

Searched: 219241 seqs, 76174552 residues

Total number of hits satisfying chosen parameters: 219241

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Listing first 45 summaries

Database :	PIR_68:*	1: p1r1:*	2: p1r2:*	3: p1r3:*	4: p1r4:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

## SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	114.5	15.2	148	D49530	16K vascular endothelial-derived trans
2	110	14.6	166	JN0248	platelet-derived trans
3	110	14.6	198	JN0735	platelet-derived trans
4	110	14.6	241	PFHUG2	platelet-derived trans
5	108	14.3	200	JN1551	platelet-derived trans
6	108	14.3	215	S08220	platelet-derived trans
7	108	14.3	226	I51550	platelet-derived trans
8	107	14.2	245	TVCRSS	ovine vascular endothelial-derived trans
9	104.5	13.9	232	A41551	vascular endothelial-derived trans
10	104	13.8	196	B28964	vascular endothelial-derived trans
11	104	13.8	197	S25096	vascular endothelial-derived trans
12	104	13.8	211	PEHUG1	vascular endothelial-derived trans
13	104	13.8	226	TMVSS	vascular endothelial-derived trans
14	102.5	13.6	133	B49530	vascular endothelial-derived trans
15	102.5	13.6	190	S52130	vascular endothelial-derived trans
16	102.5	13.6	196	A37359	vascular endothelial-derived trans
17	102.5	13.6	196	A48851	vascular endothelial-derived trans
18	102.5	13.6	419	S69207	vascular endothelial-derived trans
19	101.5	13.5	120	A33787	vascular endothelial-derived trans
20	101.5	13.5	146	S57956	ovine vascular endothelial-derived trans
21	101.5	13.5	190	B40080	vascular endothelial-derived trans
22	97	12.9	188	JC4680	vascular endothelial-derived trans
23	97	12.9	207	JC4679	vascular endothelial-derived trans
24	96.5	12.8	190	A35987	glialia-derived vascular endothelial-derived trans
25	95.5	12.7	190	B44881	vascular endothelial-derived trans
26	95.5	12.7	214	A44881	vascular endothelial-derived trans
27	94	12.5	225	S25097	vascular endothelial-derived trans
28	94	12.5	241	PFMSGB	vascular endothelial-derived trans
29	88	11.7	271	A25669	vascular endothelial-derived trans

## ALIGNMENTS

RESULT 1

D49530 16K vascular endothelial growth factor homolog A2R - Orf virus

C; Species: Orf virus

C; Date: 07-Apr-1994 #sequence\_revision 18-Nov-1994 #text\_change 08-Oct-1999

C; Accession: D49530

R; Lyttle, D.J.; Fraser, K.M.; Fleming, S.B.; Mercer, A.A.; Robinson, A.J.

J. Virol. 68, 84-92, 1994

A; Title: Homologs of vascular endothelial growth factor are encoded by the poxvirus o

A; Reference number: A49530; MUID: 94076465

A; Contents: N27

A; Accession: D49530

A; Status: preliminary

A; Molecule type: DNA

A; Residues: 1-148 <LVT>

A; Cross-references: GB:S67522; NID:9456900; PIDN:AAB29223.1; PID:9456902

A; Note: sequence extracted from NCBI backbone (NCBIN:141422; NCBIP:141426)

## RESULT 2

Query Match Score 114.5; DB 2; Length 148;

Best Local Similarity 30.2%; Pred. No. 0.00047;

Matches 29; Conservative 19; Mismatches 43; Indels 5; Gaps 3;

Qy CTPRNFSVSRBEL-KRTDTIWPFGCLVKRGCGGACCLHNCLNEQCVPVKTKYHEV 99

Db CKPRDTVYLGEYPESTNLQYNPRTCIVKRCSG---CCNGDGQICITAVERNTTVSV 102

Qy LQRPKTGV-GLHKSLTDVALEHHFCDCYCRGST 134

Db TGVSSSGTNTSGVSTNQRISVTEHPCDCIGRTTT 138

RESULT 3

JN0248 Platelet-derived growth factor chain A3 precursor - rabbit (fragment)

C; Species: Oryctolagus cuniculus (domestic rabbit)

C; Date: 09-Oct-1992 #sequence\_revision 09-Oct-1992 #text\_change 27-Jun-1994

R; Nakahara, K.; Nishimura, H.; Kuro-o, M.; Takewaki, S.; Iwase, M.; Ohkubo, A.; Yazak Biochem: Biophys. Res. Commun. 184, 811-818 1992

A; Title: Identification of three types of PDGF-A chain gene transcripts in rabbit vas

A; Reference number: JN0248; MUID: 92266970

A; Accession: JN0248

A; Molecule type: mRNA

A; Residues: 1-166 <NAK>

C; Superfamily: platelet-derived growth factor F1-2/Domain: propeptide (fragment) #status predicted <PRO> F2; 23-166/Product: platelet-derived growth factor A3 chain #status predicted <MAT>

Query Match Score 110; DB 2; Length 166;

Best Local Similarity 30.5%; Pred. No. 0.0014;



A:Residues: 'SLSL',17-20,'RQ',22-241 <JOHS>  
 A:Cross-references: GB:X00556; GB:X00559; GB:X00560; GB:X00561; PIDN:AAA49928.1; PID:9214651  
 R:Dirks, R.P.H.; Onnekink, C.; Jansen, H.J.; de Jong, A.; Bloemers, H.P.J.  
 A:Title: A novel human C-sis mRNA species is transcribed from a promoter in c-sis intron  
 A:Reference number: S58382; MUID:953880493  
 A:Status: preliminary  
 A:Molecule type: mRNA  
 A:Residues: 'MFIMGL',22-200 <DIRS>  
 A:Cross-references: EMBL:X83105; PIDN:CAA58679.1; PID:9951025  
 R:Cook, A.L.; Kirwin, P.M.; Craig, S.; Bawden, L.J.; Green, D.R.; Price, M.J.; Richardson  
 Biochem. J. 281, 57-65, 1992  
 A:Title: Purification and analysis of proteinase-resistant mutants of recombinant platelet  
 A:Reference number: I38108; MUID:92117992  
 A:Accession: I38108  
 A:Status: preliminary; translated from GB/EMBL/DDBJ  
 A:Residues: 'M',82-241 <COO>  
 A:Cross-references: EMBL:X63966; PIDN:CAA45383.1; PID:935377  
 A:Note: mutagenized recombinant sequence  
 C:Comment: Platelet-derived growth factor, a potent mitogen for cells of mesenchymal origin  
 C:Genetics:  
 A:Gene: GDB:PDGF  
 A:Cross-references: GDB:120709; OMIM:190040  
 A:Map position: 22q12.3-22q13.1  
 A:Introns: 57/3; 94/1; 192/3; 241/1  
 C:Complex: homodimer; heterodimer (see PIR:PFHUG1)  
 C:Superfamily: platelet-derived growth factor  
 C:Keywords: growth factor; mitogen  
 F:1-20/Domain: signal sequence #status predicted <SIG>  
 F:21-81/Domain: amino-terminal propeptide #status predicted <PRO>  
 F:82-190/Product: platelet-derived growth factor chain B #status experimental <MAT>  
 F:159-165/Region: receptor binding #status predicted <CTP>  
 F:191-241/Domain: carboxyl-terminal propeptide #status predicted  
 F:97-141,130-178,134-180/Disulfide bonds: #status experimental  
 F:124/Disulfide bonds: interchain (to chain A-132 in homodimeric form) #status predicted  
 F:133/Disulfide bonds: interchain (to 124 in homodimeric form) #status experimental  
 F:133/Disulfide bonds: interchain (to chain A-124 in heterodimeric form) #status predicted

---

Query Match 14.6%; Score 110; DB 1; Length 241;  
 Best Local Similarity 32.9%; Pred. No. 0.002; Mismatches 13; Indels 44; Gaps 12;

Matches 46; Conservative 46; Gaps 9;

Qy . 2 DILEDYRPTWQOLLGKAFYGRKSRSRVVDLNLT--EEVRLYSCTPRN--FSSVSIREELKRT 57  
 Db 72 ELSLAR-----GRS----LGSLTIAEPAMIAECKTRVEFEIS-RRLIDRT 114  
 Qy 58 DTTF--WPGCLLYKRCGGNCACCLHNCCQVPSKVKKKYHEVQLRP---KTGV--- 108  
 Db 115 NAFLWWPQCVFQRCSG--CC--NNNRNVQCRPTQV-----QLRFVQVRKIEIVRK 161  
 Qy 109 RGLHKSLFDVLAEEHHEECDC 128  
 Db 162 KPIFKKAT-VTEBDHLACKC 180

---

RESULT 5  
 I51551 Platelet-derived growth factor A chain short form precursor - African clawed frog  
 C:Species: Xenopus laevis (African clawed frog)  
 C:Date: 13-Sep-1996 #sequence\_revision 13-Sep-1996 #Text\_change 16-Jul-1999  
 C:Accession: I51551  
 R:Mercola, M.; Melton, D.A.; Stiles, C.D.  
 Science 241, 1223-1225, 1988  
 A:Title: Platelet-derived growth factor A chain is maternally encoded in Xenopus embryos  
 A:Reference number: I51550; MUID:88321676  
 A:Accession: I51551  
 A:Status: preliminary; translated from GB/EMBL/DDBJ  
 A:Molecule type: mRNA  
 A:Residues: 1-200 <MER>

A:Cross-references: GB:M23238; NID:9214650; PIDN:AAA49928.1; PID:9214651  
 C:Superfamily: platelet-derived growth factor  
 Query Match 14.3%; Score 108; DB 2; Length 200;  
 Best Local Similarity 30.8%; Pred. No. 0.0027; Mismatches 15; Indels 32; Gaps 9;  
 Matches 40; Conservative 40; Gaps 9;

Qy 16 KAFVFGRKSRVVDLNLTTEEVRVLYSCTPRNSVSI-REELKRTDTIF--WPGCLLYKRCG 72  
 Db 82 KRSVPSPRKRSV-----EEAVPAICKTRVIVYEIPRSQDPTSANFLWPPCVERKCT 135  
 Qy 73 GNCACCLHNCCQVPSKVKKKYH-----EVLRPKTGVRGLHKSLTDVALEHHE 124  
 Db 136 G---CC--NTSSVVKCOPSR-----HHRSSVVKAKVEYVRKKPK-----LKEVL--VRLEHL 180  
 Qy 125 ECDCVCRGST 134  
 Db 181 ECTCTANSNS 190

---

RESULT 6  
 S08220 Platelet-derived growth factor chain A precursor - African clawed frog  
 C:Species: Xenopus laevis (African clawed frog)  
 C:Date: 07-Sep-1990 #sequence\_Revision 07-Sep-1990 #text\_change 16-Jul-1999  
 C:Accession: S08220  
 R:Bejcek, B.E.; Li, D.Y.; Deuel, T.F.  
 Nucleic Acids Res. 18, 680, 1990  
 A:Title: Nucleotide sequence of a cDNA clone of xenopus platelet-derived growth factor  
 A:Reference number: S08220; MUID:90175018  
 A:Accession: S08220  
 A:Status: translation not shown  
 A:Molecule type: mRNA  
 A:Residues: 1-215 <BED>  
 A:Cross-references: EMBL:X117545; PID:964973; PIDN:CAA35583.1; PID:964974  
 C:Superfamily: platelet-derived growth factor  
 C:Keywords: alternative splicing; growth factor  
 F:1-22/Domain: signal sequence #status predicted <SIG>  
 F:23-91/Domain: propeptide #status predicted <PRO>  
 F:92-215/Product: platelet-derived growth factor chain A #status predicted <MAT>

Query Match 14.3%; Score 108; DB 2; Length 215;  
 Best Local Similarity 30.8%; Pred. No. 0.0028; Mismatches 15; Indels 32; Gaps 9;  
 Matches 40; Conservative 40; Gaps 9;

Qy 16 KAFVFGRKSRVVDLNLTTEEVRVLYSCTPRNSVSI-REELKRTDTIF--WPGCLLYKRCG 72  
 Db 82 KRSVPSPRKRSV-----EEAVPAICKTRVIVYEIPRSQDPTSANFLWPPCVERKCT 135  
 Qy 73 GNCACCLHNCCQVPSKVKKKYH-----EVLRPKTGVRGLHKSLTDVALEHHE 124  
 Db 136 G---CC--NTSSVVKCOPSR-----HHRSSVVKAKVEYVRKKPK-----LKEVL--VRLEHL 180  
 Qy 125 ECDCVCRGST 134  
 Db 181 ECTCTANSNS 190

---

RESULT 7  
 I51550 Platelet-derived growth factor A chain long form precursor - African clawed frog  
 C:Species: Xenopus laevis (African clawed frog)  
 C:Date: 13-Sep-1996 #sequence\_revision 13-Sep-1996 #Text\_change 16-Jul-1999  
 C:Accession: I51550  
 R:Mercola, M.; Melton, D.A.; Stiles, C.D.  
 Science 241, 1223-1225, 1988  
 A:Title: Platelet-derived growth factor A chain is maternally encoded in Xenopus embryos  
 A:Reference number: I51550; MUID:88321676  
 A:Accession: I51551  
 A:Status: preliminary; translated from GB/EMBL/DDBJ  
 A:Molecule type: mRNA

A; Residues: 1-226 <MER>  
 A; Cross-references: GB:M23237; NID:9214648; PIDN:AAA49927.1; PID:9214649  
 C; Superfamily: platelet-derived growth factor

Query Match 14.3%; Score 108; DB 2; Length 226;  
 Best Local Similarity 30.8%; Pred. No. 0.003; Indels 32; Gaps 9;  
 Matches 40; Conservative 15; Mismatches 43; Gaps 32; Gaps 9;  
 A; Accession: A41551  
 A; Molecule type: mRNA  
 A; Residues: 1-232 <HOU1>  
 A; Cross references: GB:S85192; NID:9246155; PID:9246156  
 A; Status: nucleic acid sequence not shown  
 A; Molecule type: mRNA  
 A; Residues: 1-140 '/N', 183-232 <HOU2>  
 A; Accession: B41551  
 A; Status: nucleic acid sequence not shown; not compared with conceptual translation  
 A; Molecule type: mRNA  
 A; Residues: 1-141-227-232 <HOU>  
 R; Tischer, E.; Mitchell, R.; Hartman, T.; Silva, M.; Gospodarowicz, D.; Fiddes, J.C.;  
 J. Biol. Chem. 266, 11947-11954, 1991  
 A; Title: The human gene for vascular endothelial growth factor. Multiple protein form  
 A; Reference number: A40454; MUID:91268072  
 A; Accession: A40454  
 A; Molecule type: DNA  
 A; Residues: 1-165-183-232 <TL1>  
 A; Cross references: GB:M63971; GB:M63972; GB:M63974; GB:M63975; GB:M63976;  
 A; Accession: B40454  
 A; Molecule type: DNA  
 A; Residues: 1-140 '/N', 183-232 <TL2>  
 A; Cross references: GB:M63971; GB:M63972; GB:M63973; GB:M63974; GB:M63975; GB:M63977;  
 A; Accession: C40454  
 A; Molecule type: DNA  
 A; Residues: 1-141-227-232 <TL3>  
 A; Cross references: GB:M63971; GB:M63972; GB:M63973; GB:M63974; GB:M63975; GB:M63978;  
 R; Keck, P.J.; Hauser, S.D.; Krivi, G.; Sanzo, K.; Warren, T.; Feder, J.; Connolly, D.  
 Science 246, 1309-1312, 1989  
 A; Title: Vascular permeability factor, an endothelial cell mitogen related to PDGF.  
 A; Reference number: A40079; MUID:90065609  
 A; Accession: A40079  
 A; Status: not compared with conceptual translation  
 A; Molecule type: mRNA  
 A; Residues: 1-165-183-232 <REC>  
 A; Cross references: GB:M27201; NID:930300; PIDN:AAA16807.1; PID:g181971  
 R; Leung, D.W.; Cachianes, G.; Kuang, W.J.; Goeddel, D.V.; Ferrara, N.  
 Science 246, 1306-1309, 1989  
 A; Title: Vascular endothelial growth factor is a secreted angiogenic mitogen.  
 A; Reference number: A40080; MUID:90065608  
 A; Accession: A40080  
 A; Status: not compared with conceptual translation  
 A; Molecule type: mRNA  
 A; Residues: 1-140 '/N', 183-232 <LEU>  
 A; Cross references: GB:M32977; NID:9181970; PIDN:AAA35789.1; PID:g181971  
 R; Weindl, K.; Maue, D.; Weich, H.A.  
 Biochem. Biophys. Res. Commun. 183, 1167-1174, 1992  
 A; Title: AIDS-associated Kaposi's sarcoma cells in culture express vascular endotheli  
 A; Reference number: QJ1463;  
 A; Molecule type: mRNA  
 A; Residues: 1-140 '/N', 183-232 <WEI>  
 A; Cross references: EMBL:X65658; NID:937659; PIDN:CAA4447.1; PID:g37659  
 A; Accession: QJ1464  
 A; Molecule type: mRNA  
 A; Residues: 1-140 '/N', 227-232 <WE2>  
 A; Experimental source: AIDS-Kaposi's sarcoma cell  
 R; Connolly, D.T.; Olander, J.V.; Heuvelman, D.; Nelson, R.; Monsell, R.; Siegel, N.;  
 J. Biol. Chem. 266, 20017-20024, 1989  
 A; Title: Human vascular permeability factor. Isolation from U937 cells.  
 A; Reference number: A34492  
 A; Molecule type: protein  
 A; Residues: 27-3643-49, 'R'; 72-76, 'Q', 78-81, 59-71 <CON>  
 C; Comment: The most common of several alternatively spliced forms is VEGF 165.  
 C; Genetics:  
 A; Gene: GDB:VEGF  
 A; Cross references: GDB:132244; OMIM:192240

Mol. Endocrinol. 5, 1806-1814, 1991  
 A; Title: The vascular endothelial growth factor family: identification of a fourth mo  
 A; Reference number: A41551; MUID:92168017

Query Match 14.3%; Score 108; DB 2; Length 226;  
 Best Local Similarity 30.8%; Pred. No. 0.003; Indels 32; Gaps 9;  
 Matches 40; Conservative 15; Mismatches 43; Gaps 32; Gaps 9;  
 A; Accession: A41551  
 A; Molecule type: mRNA  
 A; Residues: 1-232 <HOU1>  
 A; Cross references: GB:S85192; NID:9246155; PID:9246156  
 A; Status: nucleic acid sequence not shown  
 A; Molecule type: mRNA  
 A; Residues: 1-140 '/N', 183-232 <HOU2>  
 A; Accession: B41551  
 A; Status: nucleic acid sequence not shown; not compared with conceptual translation  
 A; Molecule type: mRNA  
 A; Residues: 1-141-227-232 <HOU>  
 R; Tischer, E.; Mitchell, R.; Hartman, T.; Silva, M.; Gospodarowicz, D.; Fiddes, J.C.;  
 J. Biol. Chem. 266, 11947-11954, 1991  
 A; Title: The human gene for vascular endothelial growth factor. Multiple protein form  
 A; Reference number: A40454; MUID:91268072  
 A; Accession: A40454  
 A; Molecule type: DNA  
 A; Residues: 1-165-183-232 <TL1>  
 A; Cross references: GB:M63971; GB:M63972; GB:M63974; GB:M63975; GB:M63976;  
 A; Accession: B40454  
 A; Molecule type: DNA  
 A; Residues: 1-140 '/N', 183-232 <TL2>  
 A; Cross references: GB:M63971; GB:M63972; GB:M63973; GB:M63974; GB:M63975; GB:M63977;  
 A; Accession: C40454  
 A; Molecule type: DNA  
 A; Residues: 1-141-227-232 <TL3>  
 A; Cross references: GB:M63971; GB:M63972; GB:M63973; GB:M63974; GB:M63975; GB:M63978;  
 R; Keck, P.J.; Hauser, S.D.; Krivi, G.; Sanzo, K.; Warren, T.; Feder, J.; Connolly, D.  
 Science 246, 1309-1312, 1989  
 A; Title: Vascular permeability factor, an endothelial cell mitogen related to PDGF.  
 A; Reference number: A40079; MUID:90065609  
 A; Accession: A40079  
 A; Status: not compared with conceptual translation  
 A; Molecule type: mRNA  
 A; Residues: 1-165-183-232 <REC>  
 A; Cross references: GB:M27201; NID:930300; PIDN:AAA16807.1; PID:g181971  
 R; Leung, D.W.; Cachianes, G.; Kuang, W.J.; Goeddel, D.V.; Ferrara, N.  
 Science 246, 1306-1309, 1989  
 A; Title: Vascular endothelial growth factor is a secreted angiogenic mitogen.  
 A; Reference number: A40080; MUID:90065608  
 A; Accession: A40080  
 A; Status: not compared with conceptual translation  
 A; Molecule type: mRNA  
 A; Residues: 1-140 '/N', 183-232 <LEU>  
 A; Cross references: GB:M32977; NID:9181970; PIDN:AAA35789.1; PID:g181971  
 R; Weindl, K.; Maue, D.; Weich, H.A.  
 Biochem. Biophys. Res. Commun. 183, 1167-1174, 1992  
 A; Title: AIDS-associated Kaposi's sarcoma cells in culture express vascular endotheli  
 A; Reference number: QJ1463;  
 A; Molecule type: mRNA  
 A; Residues: 1-140 '/N', 183-232 <WEI>  
 A; Cross references: EMBL:X65658; NID:937659; PIDN:CAA4447.1; PID:g37659  
 A; Accession: QJ1464  
 A; Molecule type: mRNA  
 A; Residues: 1-140 '/N', 227-232 <WE2>  
 A; Experimental source: AIDS-Kaposi's sarcoma cell  
 R; Connolly, D.T.; Olander, J.V.; Heuvelman, D.; Nelson, R.; Monsell, R.; Siegel, N.;  
 J. Biol. Chem. 266, 20017-20024, 1989  
 A; Title: Human vascular permeability factor. Isolation from U937 cells.  
 A; Reference number: A34492  
 A; Molecule type: protein  
 A; Residues: 27-3643-49, 'R'; 72-76, 'Q', 78-81, 59-71 <CON>  
 C; Comment: The most common of several alternatively spliced forms is VEGF 165.  
 C; Genetics:  
 A; Gene: GDB:VEGF  
 A; Cross references: GDB:132244; OMIM:192240

RESULT 8  
 TVCTSS  
 platelet-derived growth factor chain B precursor - cat  
 N; Alternate names: PDGF-related transforming protein  
 C; Species: *Felis silvestris catus* (domestic cat)  
 C; Accession: A26402  
 R; Van den Ouveland, A.M.W.; Van Groningen, J.J.M.; Schalken, J.A.; Van Neck, H.W.; Bloem  
 Nucleic Acids Res. 15, 959-970, 1987  
 A; Title: Genetic organization of the c-sis transcription unit.  
 A; Reference number: A26402; MUID:87146463  
 A; Accession: A26402  
 A; Molecule type: mRNA  
 A; Residues: 1-245 <VAN>  
 C; Genetics:  
 A; Gene: sis  
 C; Superfamily: platelet-derived growth factor  
 C; Keywords: glycoprotein; growth factor; platelet; Proto-oncogene; transforming protein  
 F; 1-20/Domain: signal sequence # status predicted <SIG>  
 F; 21-81/Domain: propeptide # status predicted <PRO>  
 F; 82-194/Product: platelet-derived growth factor chain B # status predicted <MAT>  
 F; 163-167/Region: receptor binding # status predicted  
 F; 63/Binding site: carbohydrate (Asn) (covalent) # status predicted

Query Match 14.2%; Score 107; DB 1; Length 245;  
 Best Local Similarity 30.4%; Pred. No. 0.004; Indels 36; Gaps 10;  
 Matches 42; Conservative 15; Mismatches 45; Gaps 36; Gaps 10;  
 A; Accession: QJ1464  
 A; Molecule type: mRNA  
 A; Residues: 1-140 '/N', 183-232 <LEU>  
 A; Cross references: GB:M32977; NID:9181970; PIDN:AAA35789.1; PID:g181971  
 R; Leung, D.W.; Cachianes, G.; Kuang, W.J.; Goeddel, D.V.; Ferrara, N.  
 Science 246, 1306-1309, 1989  
 A; Title: Vascular endothelial growth factor is a secreted angiogenic mitogen.  
 A; Reference number: QJ1463;  
 A; Molecule type: mRNA  
 A; Residues: 1-140 '/N', 183-232 <WEI>  
 A; Cross references: EMBL:X65658; NID:937659; PIDN:CAA4447.1; PID:g37659  
 A; Accession: QJ1464  
 A; Molecule type: mRNA  
 A; Residues: 1-140 '/N', 227-232 <WE2>  
 A; Experimental source: AIDS-Kaposi's sarcoma cell  
 R; Connolly, D.T.; Olander, J.V.; Heuvelman, D.; Nelson, R.; Monsell, R.; Siegel, N.;  
 J. Biol. Chem. 266, 20017-20024, 1989  
 A; Title: Human vascular permeability factor. Isolation from U937 cells.  
 A; Reference number: A34492  
 A; Molecule type: protein  
 A; Residues: 27-3643-49, 'R'; 72-76, 'Q', 78-81, 59-71 <CON>  
 C; Comment: The most common of several alternatively spliced forms is VEGF 165.  
 C; Genetics:  
 A; Gene: GDB:VEGF  
 A; Cross references: GDB:132244; OMIM:192240

RESULT 9  
 A41551  
 vascular endothelial growth factor 206 precursor - human  
 N; Alternate names: vascular permeability factor  
 N; Contains: Homo sapiens (man)  
 C; Date: 28-Aug-1992 # sequence revision 28-Aug-1992 # text\_change 05-Nov-1999  
 C; Accession: A41551; C41551; B41551; A40454; B40454; C40454; A40080; JQ1463; JQ1  
 R; Houck, K.A.; Ferrara, N.; Winer, J.; Cachianes, G.; Li, B.; Leung, D.W.

A; Map position: 6p21-6p2		Db 151 KVAKVEYVRKKPKLKEV----QVRLEEHLECAC 179
C; Function: promotes fluid and protein leakage from blood vessels		
C; Keywords: alternative splicing; angiogenesis; dimer; extracellular pro		
F; 1-232/Product: vascular endothelial growth factor 206 precursor #status predicted <v20		
F; 1-165; 183-232/Product: vascular endothelial growth factor 189 precursor #status predicted <v20		
F; 1-26/Domain: signal sequence predicted #status predicted <SIG>		
F; 101/Binding site: carbohydrate (Asn) (covalent) #status predicted		
RESULT 11		
S25096 platelet-derived growth factor chain A precursor - rat (fragment)		
C; Species: Rattus norvegicus (Norway rat)		
C; Date: 07-Apr-1994 #sequence_revision 07-Apr-1994 #text_change 16-Jul-1999		
C; Accession: S25096; S33764		
R; Herrern, B.; Weyer, K.A.; Rouge, M.; Loetscher, P.; Pech, M.		
R; Herrern, B.; Weyer, K.A.; Rouge, M.; Loetscher, P.; Pech, M.		
submitted to the EMBL Data Library, July 1992		
A; Description: Cross-Species conservation in sequence and function of PDGF ligands and r		
A; Reference number: S25096		
A; Accession: S25096		
A; Molecule type: mRNA		
A; Residues: 1-197 <HER2>		
A; Cross-references: EMBL:214120; NID:956865; PIDN:CAA78490.1; PID:956866		
R; Herrern, B.; Weyer, K.A.; Rouge, M.; Loetscher, P.; Pech, M.		
Biochim. Biophys. Acta 1173, 294-302, 1993		
A; Title: Conservation in sequence and affinity of human and rodent PDGF ligands and r		
A; Reference number: S33764; MUID:93305723		
A; Accession: S33764		
A; Molecule type: mRNA		
A; Residues: 89-172 <HER2>		
A; Cross-references: EMBL:214120		
C; Superfamily: platelet-derived growth factor		
C; Keywords: growth factor; mitogen; platelet		
Query Match 13.9%; Score 104.5; DB 2; Length 232;		
Best Local Similarity 27.0%; Pred. No. 0.0056;		
Matches 24; Conservative 21; Mismatches 33; Indels 11; Gaps 4;		
Qy 41 CTPPNFSVIREEL-KRDTQFLWGGCLLYRKRCGNGCACC1-HNCNCQCPVKSVKRYHEV 99		
Db 52 CHPLETLVDIFQEPYDIEYIFKFKSCVPLMRCGG--CC-NDDEGLECVPTFEESNTMQI 106		
Qy 100 LOLRKPTGYRGRLHRSLTDVALEHHHECDC 128		
Db 107 MTKPHQG----OHGENSFLQHNKCEC 130		
RESULT 10		
B28964 Platelet-derived growth factor chain A precursor splice form. 2 - human		
C; Species: Homo sapiens (man)		
C; Date: 30-Jun-1989 #sequence_revision 30-Jun-1989 #text_change 16-Jul-1999		
C; Accession: B28964; B42002; B28122		
A; Molecule type: DNA		
A; Residues: 1-196 <BON>		
A; Cross-references: GB:M21571; GB:J03638; GB: M19984; GB: M19985; GB: M19986; GB: M19987; GB		
R; Bonthron, D.; Collins, T.; Grzeschik, K.H.; van Roy, N.; Spelman, F.		
A; Title: Platelet-derived growth factor A chain: gene structure, chromosomal location, a		
A; Reference number: A28964; MUID:88144463		
A; Accession: B28964		
A; Molecule type: DNA		
A; Residues: 1-196 <BON>		
A; Cross-references: GB:M21571; GB:J03638; GB: M19984; GB: M19985; GB: M19986; GB: M19987; GB		
R; Bonthron, D.; Collins, T.; Grzeschik, K.H.; van Roy, N.; Spelman, F.		
A; Title: Platelet-derived growth factor A chain: confirmation of localization of PDGFA		
A; Reference number: A42002; MUID:92307556		
A; Status: Preliminary; not compared with conceptual translation		
A; Molecule type: DNA		
A; Residues: 152-196 <BO>		
R; Rorsman, F.; Bywater, M.; Knott, T.J.; Scott, J.; Betsholtz, C.		
Mol. Cell. Biol. 8, 571-577, 1988		
A; Title: Structural characterization of the human platelet-derived growth factor A-chain		
A; Reference number: A28122; MUID:88174698		
A; Accession: B28122		
A; Molecule type: mRNA		
A; Residues: 1-63 'TRD' 67-196 <ROR>		
A; Cross-references: GB:M20488		
A; Map position: 7p22-7p22		
C; Superfamily: platelet-derived growth factor		
C; Keywords: alternative splicing; glycoprotein; growth factor; mitogen; platelet		
C; Comment: Exon 6 is spliced out of this variant splice form. For the major splice form		
C; Genetics:		
A; Gene: GDB:PDGFA		
A; Cross-references: GDB:120266; OMIM:173430		
A; Map position: 1-63 'TRD' 67-196 <ROR>		
RESULT 12		
PFPUGL platelet-derived growth factor chain A precursor - human		
N; Alternative names: PDGF A chain; PDGF 1; platelet-derived growth factor 1		
C; species: Homo sapiens (man)		
C; Date: 04-Dec-1986 #sequence_revision 04-Dec-1986 #text_change 18-Feb-2000		
C; Accession: A28964; S47564; A42002; A01379; S00173; A28122		
R; Bonthron, D.T.; Morton, C.C.; Orkin, S.B.; Collins, T.		
Proc. Natl. Acad. Sci. U.S.A. 85, 1492-1496, 1988		
A; Title: Platelet-derived growth factor A chain: gene structure, chromosomal location		
A; Reference number: A28964; MUID:88144463		
A; Accession: A28964		
A; Molecule type: DNA		
A; Residues: 1-211 <BON>		
A; Cross-references: GB:M21571; GB:J03638; GB: M19984; GB: M19985; GB: M19986; GB: M19987;		
R; Takimoto, Y.; Kuramoto, A.		
Biochim. Biophys. Acta 1222, 511-514, 1994		
A; Title: Gene regulation by the 5'-untranslated region of the platelet-derived growth		
A; Reference number: S47564; MUID:94312450		
A; Accession: S47564		
A; Status: preliminary		
A; Molecule type: DNA		
A; Residues: 1-211 <BON>		
Query Match 13.8%; Score 104; DB 2; Length 196;		
Best Local Similarity 34.0%; Pred. No. 0.0056;		
Matches 32; Conservative 12; Mismatches 34; Indels 16; Gaps 6;		
Qy 41 CTPRNFSVSI-REELKRTDTIF-WPGCLLVKRCGGNCACCLHNCNECQCPVSKV----TK 94		
Db 96 CKTRTVIYEIPRSQDPTSANFLWMPCEVKRCTG--CC-NTSSVKCOPSRVHRSV 150		
Qy 95 KYHEVLQLRPTGYRGHLKSLTDVALEHHEDCD 128		

A;Residues: 152-211 <B02>  
 R;Betholtz, C.; Johnson, A.; Heldin, C.H.; Westermark, B.; Lind, P.; Urdea, M.S.; Eddy  
 Nature 320, 695-699, 1986  
 A;Title: cDNA sequence and chromosomal localization of human platelet-derived growth factor  
 A;Reference number: A011379; MUID:86203630  
 A;Accession: A01379  
 A;Molecule type: mRNA  
 A;Residues: 1-211 <B02>  
 A;Cross-references: GB:X03795; NID:935365; PIDN:CAA27421.1; PID:935366  
 R;Hoppe, J.; Schumacher, L.; Bichner, W.; Welch, H.A.  
 FEBS Lett. 223, 243-246, 1987  
 A;Title: The long 3'-untranslated regions of the PDGF-A and -B mRNAs are only distantly  
 A;Reference number: S00173; MUID:88030061  
 A;Accession: S00173  
 A;Molecule type: mRNA  
 A;Residues: 1-193, D7R, <HOP>  
 A;Cross-references: EMBL:X06374; NID:935363; PIDN:CAA29677.1; PID:935364  
 R;Rottner, F.; Bywater, M.; Knot, T.J.; Scott, J.; Betsholtz, C.  
 Mol. Cell. Biol. 8, 571-577, 1988  
 A;Title: Structural characterization of the human platelet-derived growth factor A-chain  
 A;Reference number: A28122; MUID:88174698  
 A;Accession: A28122  
 A;Molecule type: mRNA  
 A;Residues: 1-63, 'TRD', 67-211 <ROR>  
 A;Cross-references: GB:M20488  
 A;Note: the authors translated the codon ACA for residue 64 as Arg, CGT for residue 65 as  
 C;Comment: Platelet-derived growth factor, a potent mitogen for cells of mesenchymal origin,  
 C;Terminal propeptide may be removed from the precursor by proteolysis  
 C;Genetics:  
 A;Gene: GDB:PDGFA  
 A;Cross-references: GDB:120266; OMIM:173430  
 A;Map position: 7p22-7p22  
 C;Complex: homodimer; heterodimer (see PIR:PFHUG2)  
 C;Superfamily: Platelet-derived growth factor  
 C;Keywords: alternative splicing; glycoprotein; growth factor; mitogen; platelet  
 F;1-20/Domain: signal sequence #status predicted <SIG>  
 F;21-86/Domain: propeptide #status predicted <PRO>  
 F;87-111/Product: platelet-derived growth factor chain A #status predicted <MAT>  
 F;158-162/Region: receptor binding #status predicted  
 F;96-140, 129-177, 133-179/Disulfide bonds: interchain (to chain B-133 in heterodimeric form) #status predicted  
 F;123/Disulfide bonds: interchain (to 132 in homodimeric form) #status predicted  
 F;132/Disulfide bonds: interchain (to chain B-124 in heterodimeric form) #status predicted  
 F;132/Disulfide bonds: interchain (to 123 in homodimeric form) #status predicted  
 F;134/Binding site: carbohydrate (Asn) (covalent) #status predicted  
 RESULT 14  
 Query Match 13.8%; Score 104; DB 1; Length 211;  
 Best Local Similarity 34.0%; Pred. No. 0.0069;  
 Matches 32; Conservative 12; Mismatches 34; Indels 16; Gaps 6;  
 QY 41 CTPRNFSVST-REELKRTDTIF--WPGCLLYVKRCGGNCACCLHNCNECQVPSKV -- -TK 94  
 Db 96 CKTRVIVYELPPDQPTDSANFLIMPVCVKRTG--CC-NFTSSVKCOPSRVHRSV 150  
 Qy 95 KHHFVQLRPFKTVGLVRLHKSLTDALEHHFECDC 128  
 Db 151 KVAKVEYVRKKPKLKEV----QVRLEEHLECAC 179  
 RESULT 15  
 Query Match 13.8%; Score 104; DB 1; Length 211;  
 Best Local Similarity 34.0%; Pred. No. 0.0069;  
 Matches 32; Conservative 12; Mismatches 34; Indels 16; Gaps 6;  
 QY 41 CTPRNFSVST-REELKRTDTIF--WPGCLLYVKRCGGNCACCLHNCNECQVPSKV -- -TK 94  
 Db 96 CKTRVIVYELPPDQPTDSANFLIMPVCVKRTG--CC-NFTSSVKCOPSRVHRSV 150  
 Qy 95 KHHFVQLRPFKTVGLVRLHKSLTDALEHHFECDC 128  
 Db 151 KVAKVEYVRKKPKLKEV----QVRLEEHLECAC 179  
 RESULT 16  
 Query Match 13.6%; Score 102.5; DB 2; Length 133;  
 Best Local Similarity 30.5%; Pred. No. 0.0063;  
 Matches 32; Conservative 18; Mismatches 40; Indels 15; Gaps 6;  
 QY 33 TEEVRLYCTPRNFVSVSTRE--ELKRTDTIFWPGCLLYVKRCGGNCACCLHNCNECQVPS 89  
 Db 28 SEVLKGSCCKPRTIVPVSETHFEL-TSQRFNPVCVLMRCGG--CC-NDESLECV 80  
 Qy 90 SKTKVHYEVQLRPFKTVGLVRLHKSLTDALEHHFECDC 134  
 Db 81 TEEVNVNTMELLG-ASGSNSGMOR--LSFVHEHKKCDCRPRFTT 120  
 RESULT 15  
 vascular endothelial growth factor - pig  
 C;Species: Sus scrofa domestica (domestic pig)  
 C;Accession: S52130  
 C;Title: Nucleotide sequence and expression of the porcine vascular endothelial growth  
 factor gene  
 A;Reference number: S52130  
 A;Status: preliminary  
 A;Molecule type: mRNA  
 A;Residues: 1-190 <SHA>  
 A;Cross-references: GB:X81380; NID:9587559; PIDN:CAA57143.1; PID:9587560  
 A;Reference number: A03982; MUID:83144004

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Query	Match	13.6%	Score	102.5;	DB	2;	Length	190;
Best	Local	Similarity	27.0%	Pred.	No.	0.0087;	Gaps	
Matches	24;	Conservative	20;	Mismatches	34;	Indels	11;	4;
Qy	41	CTPRNFSIREEL-KRTDTIFWFGCLLYKRCGGNCACCLHNCNECQCYPVKTKKYHEV	99					
Db	51	CRPILETLDIFQEPDIEYIFKPSCVPLMRCGG--CC--NDEGLECVETEEFNITMQI	105					
Qy	100	LQLRPKTGVRLHKSLTDVALEHHEFCDC	128					
Db	106	MRIKPHQG----QHIGEMSFLOHNKEC	129					

Search completed: August 18, 2001, 01:52:09  
Job time: 925 sec

Result No.	Score	Query Match	Length	DB ID	Description
1	114.5	15.2	148	1 VEGH_ORFN7	P52285 orf virus (
2	110	14.6	213	1 PDGA_RABBIT	P34007 orcytologus
3	110	14.6	241	1 PDGB_HUMAN	P01127 homo sapien
4	108.5	14.4	164	1 VEGC_CAVPO	P266117 cavia porce
5	108	14.3	226	1 PDGA_XENLA	P136398 xenopus lae
6	107	14.2	245	1 PDGB_FELCA	P129119 felis silve
7	105.5	14.0	188	1 VEGB_HUMAN	P49765 homo sapien
8	104.5	13.9	215	1 VEGF_HUMAN	P15692 homo sapien
9	104	13.8	204	1 PDGA_RAT	P28576 rattus norv
10	104	13.8	211	1 PDGA_HUMAN	P04085 homo sapien
11	104	13.8	211	1 PDGA_MOUSE	P20033 mus musculus
12	104	13.8	226	1 TSIS_SMSAV	P01128 simian sarc
13	102.5	13.6	133	1 VEGH_ORFN2	P52284 orf virus (
14	102.5	13.6	190	1 VEGF_PIG	P49151 sus scrofa
15	102.5	13.6	419	1 VEGC_HUMAN	P49767 homo sapien
16	101.5	13.5	146	1 VEGF_SHEEP	P50412 ovis aries
17	101.5	13.5	190	1 VEGF_BOVIN	P15691 bos taurus
18	101.5	13.5	415	1 VEGG_MOUSE	P97953 mus musculus
19	97	12.9	188	1 VEGB_MOUSE	P49766 mus musculus
20	96.5	12.8	190	1 VEGF_RAT	P166112 rattus norv
21	95.5	12.7	214	1 VEGF_MOUSE	P00731 mus musculus
22	92	94	12.5	1 PDGB_RAT	Q95028 rattus norv
23	94	12.5	241	1 PDGB_MOUSE	P31240 mus musculus
24	90	11.9	241	1 PDGB_SHEEP	P95229 ovis aries
25	88.5	11.7	216	1 VEGE_CHICK	P52382 gallus gallus
26	84	11.1	158	1 PLGF_MOUSE	P49764 mus musculus
27	83.5	11.1	5179	1 MUC2_HUMAN	P02817 homo sapien
28	79.5	10.5	170	1 PLGE_HUMAN	P49763 homo sapien
29	77.5	10.3	3672	1 LML2_CAEL	Q21313 caenorhabdi
30	73	9.7	60	1 MT_CHAAC	P52724 chaenocerca
31	73	9.7	60	1 MT_PAGBE	Q92145 pagobea
32	73	9.7	60	1 MT_PARCR	Q93450 parachaenia
33	72	9.5	60	1 MT_DICLIA	Q9pt99 dicentrarch

ALIGNMENTS					
RESULT	1				
ID	VEGH_ORFN7				
AC	P52585				
DT	01-OCT-1996	(Rel. 34, Created)			
DT	01-OCT-1996	(Rel. 34, Last sequence update)			
DT	15-JUL-1999	(Rel. 38, Last annotation update)			
DE	VASCULAR ENDOTHELIAL GROWTH FACTOR HOMOLOG PRECURSOR.				
GN	A2R.				
OS	Orf virus (strain NZ7) (OV NZ-7)				
OC	Parapoxvirus; dsDNA viruses, no RNA stage; Poxviridae; Chordopoxvirinae;				
OX	NCBI_Taxid=73495;				
RN	[1]				
RP	SEQUENCE FROM N.A.				
RX	MEDLINE=94076465; PubMed=8254780;				
RA	Little D.J., Fraser K.M., Fleming S.B., Mercer A.A., Robinson A.J.; "Homologs of vascular endothelial growth factor are encoded by the poxvirus orf virus."				
RT	J. Virol. 68: 84-92 (1994).				
RL	CC -!- SUBUNIT: HOMODIMER, DISULFIDE-LINKED (BY SIMILARITY).				
CC	CC -!- FUNCTION: INDUCES ENDOTHELIAL PROLIFERATION.				
CC	CC -!- SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.				
CC	CC This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation - the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/ or send an email to license@isb-sib.ch).				
CC	CC DR EMBL: S67522; AAB29223.1; - .				
DR	DR HSSP; P15692; 1VPF.				
DR	DR InterPro: IPR000072; - .				
DR	DR PF00341; PDGF; 1.				
DR	DR PROSITE; PS00249; PDGF; 1; FALSE_NEG.				
DR	DR PROSITE; PS50278; PDGF; 2; 1.				
KW	KW Mitogen; Growth factor; Glycoprotein; Signal.				
FT	FT SIGNAL 1 ? POTENTIAL.				
FT	FT CHAIN 2 ? 148 VASCULAR ENDOTHELIAL GROWTH FACTOR				
FT	FT HOMOLOG. BY SIMILARITY.				
FT	FT DISULFID 46 88 BY SIMILARITY.				
FT	FT DISULFID 77 130 BY SIMILARITY.				
FT	FT DISULFID 81 132 BY SIMILARITY.				
FT	FT DISULFID 71 71 INTERCHAIN (BY SIMILARITY).				
FT	FT DISULFID 80 80 INTERCHAIN (BY SIMILARITY).				
FT	FT CARBOYD 95 95 N LINKED (GLCNAC. . . ) (POTENTIAL).				
SQ	SQ SEQUENCE 148 AA; 16078 MW; F0E1BA104CC73F8 CRC64;				
Query Match	Query Match 15.2%: Score 114.5; DB 1; Length 148;				
Best Local Similarity	Best Local Similarity 30.2%; Pred. No. 7.8e-05; Matches 19; Mismatches 43; Indels 5; Gaps 3;				
Matches	Matches 29; Conservative 19; Mismatches 43; Indels 5; Gaps 3;				
QY	QY 41 CTPRNFSVSIREEEL-KRTDTFWPGCLLVKRCGGNCACCLHNHCNEQCVPSSKVTKKYHEV 99				

Db	46	CKPDKTVVYGEPESTNLQYNPRCVTVKRCGSG--CCNGDQIQTAVETRNTTVSVY 102	Query Match	14.6%	Score 110;	DB 1;	Length 213;
Qy	100	LQRPKPTGVR-GIURSLTVALHEECDGCVRGST 134	Best Local Matches	30.5%	Pred. No. 0.0032;		
Db	103	TGVSSSSGTNSGVSTNLQRISVTHTKCDCIGRTT 138	Conservative Matches	16;	Mismatches 48;	Indels 18;	Gaps 7;
RESULT	2						
PDGA_RABBIT	ID	PDGA_RABBIT	STANDARD;	PRT;	213 AA.		
GN	PDGFA.						
OS	Oryctolagus cuniculus (Rabbit).						
OC	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;						
OC	Mammalia; Eutheria; Lagomorpha; Leporidae; Oryctolagidae;						
OX	NCBI_TaxID=9986;						
RN	SEQUENCE FROM N.A. TISSUE=vascular smooth muscle; MEDLINE=92246970; PubMed=1575749;						
RA	Nakahara K.-I., Nishimura H., Kuro-O M., Takewaki S.-I., Iwase M.,						
RA	"Identification of three types of PDGF-A chain gene transcripts in rabbit vascular smooth muscle and their regulated expression during development and by angiotensin II.";						
RL	Biochem Biophys Res Commun. 184:811-818(1992).						
CC	-1- FUNCTION: PLATELET-DRIVEN GROWTH FACTOR IS A POTENT MITOGEN FOR CELLS OF MESENCHYMAL ORIGIN. BINDING OF THIS GROWTH FACTOR TO ITS AFFINITY RECEPTOR ELICTS A VARIETY OF CELLULAR RESPONSES. IT IS RELEASED BY PLATELETS UPON WOUNDING AND PLAYS AN IMPORTANT ROLE IN STIMULATING ADJACENT CELLS TO GROW AND THEREBY HEAL THE WOUND.						
CC	-1- SUBUNIT: ANTI-PARALLEL DISULFIDE-LINKED DIMER OF NONIDENTICAL (A AND B) CHAINS. HOMODIMERS OF A AND B CHAINS ARE IMPLICATED IN TRANSFORMATION PROCESSES.						
CC	-1- ALTERNATIVE PRODUCTS: 3 ISOFORMS; A1, A2 (SHOWN HERE) AND A3; ARE PRODUCED BY ALTERNATIVE SPlicing.						
CC	-1- INDUCTION: THE FORM A3 IS SELECTIVELY INDUCED BY ANGIOTENSIN II.						
CC	-1- MISCELLANEOUS: A-A AND B-B, AS WELL AS A-B, DIMERS CAN BIND TO THE PDGF RECEPTOR.						
CC	-1- SIMILARITY: BELONGS TO THE PDGF/VEGFR FAMILY OF GROWTH FACTORS.						
DR	PIR; JS0735; JS0735.						
DR	PRINTS; PS0387; PS0387.						
DR	PROSITE; JN0248; JN0248.						
DR	HSSP; P01127; 1P0G.						
DR	InterPro; IPR000072; .						
DR	InterPro; IPR002400; .						
DR	PFAM; PF00341; PDGF; 1.						
DR	PRINTS; PR00438; GPCYSKNOT.						
DR	PROSITE; PS00249; PDGF_1; 1.						
KW	Glycoprotein; Mitogen; Growth factor; Platelet; Alternative splicing; Signal.						
FT	SIGNAL	1	20	BY SIMILARITY.			
FT	PROPEP	21	89	REMOVED BY PROTEOLYSIS (BY SIMILARITY).			
FT	CHAIN	90	213	PLATELET-DERIVED GROWTH FACTOR, A CHAIN.			
FT	SITE	158	162	RECEPTOR BINDING SITE (POTENTIAL).			
FT	DISULFID	131	179	BY SIMILARITY.			
FT	DISULFID	135	181	INTERCHAIN (BY SIMILARITY).			
FT	DISULFID	125	125	INTERCHAIN (BY SIMILARITY).			
FT	DISULFID	134	134	N-LINKED (GLCNAC) (POTENTIAL).			
FT	CARBOHYD	136	136	GRR -> DRR (IN ISOFORM A1).			
FT	VARSPLIT	196	198	MISSING (IN ISOFORM A1).			
FT	VARSPLIT	199	213	RRREGGKKRKRKRKRP -> TLLUPAGGYHPOGCLRAHDG (IN ISOFORM A3).			
FT	VARSPLIT	197	213	QSSSNHMQALGWAKKM (IN ISOFORM A3).			
SEQUENCE	213 AA;	24005 MW;					
SQ							

- [7] SEQUENCE FROM N.A.  
RP Burgess J., Odell C.;  
RA submitted (Oct-1996) to the EMBL/GenBank/DDBJ databases.
- [8] SEQUENCE OF 1-53 FROM N.A.  
RP MEDLINE=97141927; PubMed=8988177;  
RX Simon M.-P., Pedeutour F., Sirvent N., Grosgeorge J., Minnelli F., Coindre J.-M., Terrier-Lacome M.-J., Mandahl N., Craver R.D., RA Fransson I., Sozzani G., Turc-Carel C., O'Brien K.P., Kedra D., RA "Deregulation of the platelet-derived growth factor B-chain gene via fusion with collagen gene COL1A1 in dermatofibrosarcoma protuberans and giant-cell fibroblastoma.";  
RT Nat. Genet. 15: 95-98(1997).  
RN (9)  
RP SEQUENCE OF 26-241 FROM N.A.  
RX MEDLINE=86164981; PubMed=3456904;  
RA Johnsson A., Heldin C.H., Westermark B., Deuel T.F.,  
RA Huang J.S., Seeburg P.H., Gray A., Ulrich A., Scrace G.,  
RA Stroobant P., Waterfall M.D.;  
RT "The human osteosarcoma cell line U-2 OS expresses a 3.8 kilobase mRNA which codes for the sequence of the PDGF-B chain.";  
RT FEBS Lett. 198: 344-348(1986).  
RN (10)  
RP SEQUENCE OF 153-200 FROM N.A., AND PARTIAL SEQUENCE.  
RX MEDLINE=84236121; PubMed=6339475;  
RA Johnsson A., Heldin C.H., Westermark B., Deuel T.F.,  
RA Seeburg P.H., Gray A., Ulrich A., Scrace G.,  
RA Stroobant P., Waterfall M.D.;  
RT "The c sis gene encodes a precursor of the B chain of platelet-derived growth factor.";  
RT EMBO J. 3: 921-928(1984).  
RN (11)  
RP SEQUENCE OF 82-110.  
RX Antoniades H.N., Hunkapiller M.W.;  
RA "Human platelet-derived growth factor (PDGF): amino-terminal amino acid sequence.";  
RT Science 220: 963-965(1983).  
RN (12)  
RP SEQUENCE OF 82-112.  
RX MEDLINE=83244981; PubMed=6844921;  
RA Waterfield M.D., Scrace G.T., Whittle N., Stroobant P., Johnsson A.,  
RA Westermark A., Heldin C.H., Huang J.S., Deuel T.F.;  
RT "Platelet-derived growth factor is structurally related to the putative transforming protein p205 of simian sarcoma virus.";  
RN Nature 304: 35-39(1983).  
RN (13)  
RP MUTAGENESIS, & IMPORTANCE OF ARG-108 AND ILE-111 FOR RECEPTOR-BINDING.  
RX MEDLINE=92097530; PubMed=1661670;  
RA Clements J.M., Baerd L.J., Bloxidge R.E., Catlin G., Cook A.L.,  
RA Craig S., Drummond A.H., Edwards R.M., Fallon A., Green D.R.,  
RA Chahwala S.B., Sharey M., Winslow D.;  
RT "Two PDGF-B chain residues, arginine 27 and isoleucine 30, mediate receptor binding and activation.";  
RN EMBO J. 10: 4113-4120(1991).  
RN (14)  
RP INTERCHAIN DISULFIDE BONDS.  
RX MEDLINE=92283833; PubMed=1317862;  
RA Andersson M., Oestman A., Baekstroem G., Hellman U.,  
RA George-Nascimento C., Westermark B., Heldin C.-H.;  
RT "Assignment of interchain disulfide bonds in platelet-derived growth factor (PDGF) and evidence for agonist activity of monomeric PDGF.";  
RN J. Biol. Chem. 267: 11260-11266 (1992).  
RN (15)  
RP X-RAY CRYSTALLOGRAPHY (3.0 ANGSTROMS).  
RX MEDLINE=93010987; PubMed=1336586;  
RA Oefner C., D'Arcy A., Winkler F.K., Eggemann B., Hosang M.;  
RT "Crystal structure of human platelet-derived growth factor BB.";  
RN EMBO J. 11: 3921-3926 (1992).  
CC -1- FUNCTION: PLATELET-DERIVED GROWTH FACTOR IS A POTENT MITOGEN FOR CELLS OF MESENCHYMAL ORIGIN. BINDING OF THIS GROWTH FACTOR TO ITS AFFINITY RECEPTOR ELICITS A VARIETY OF CELLULAR RESPONSES. IT IS

CC RELEASED BY PLATELETS UPON WOUNDING AND PLAYS AN IMPORTANT ROLE  
CC IN STIMULATING ADJACENT CELLS TO GROW AND THEREBY HEAL THE WOUND.  
CC -1- SUBUNIT: ANTI-PARALLEL DISULFIDE-LINKED DIMER OF NONIDENTICAL (A  
CC AND B) CHAINS. HOMODIMERS OF A AND B CHAINS ARE IMPLICATED IN  
CC TRANSFORMATION PROCESSES.  
CC -1- PHARMACEUTICAL: AVAILABLE UNDER THE NAME REGRANEX (ORTHO-MCNEIL).  
CC USED TO PROMOTE HEALING IN DIABETIC NEUROPATHIC FOOT ULCERS.  
CC -1- MISCELLANEOUS: A-A AND B-B, AS WELL AS A-B, DIMERS CAN BIND TO THE  
CC PDGF RECEPTOR.  
CC -1- SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.  
CC DATABASE: NAME=R&D Systems' cytokine source book;  
CC WWW="http://www.rtdsystems.com/cyt-cat/pdgr.html".  
CC -1- DATABASE: NAME=Regranex; NONE=Clinical information on Regranex;  
CC WWW="http://www.regranex.com/".  
CC  
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CC  
DR EMBL; K01401; AAA60552.1; -.  
DR EMBL; K01918; AAA60552.1; JOINED.  
DR EMBL; J00121; AAA60552.1; JOINED.  
DR EMBL; K01398; AAA60552.1; JOINED.  
DR EMBL; K01399; AAA60552.1; JOINED.  
DR EMBL; K01400; AAA60552.1; JOINED.  
DR EMBL; X02811; CAA26579.1; -.  
DR EMBL; M12763; AAA60552.1; -.  
DR EMBL; X02744; CAA26524.1; -.  
DR EMBL; K01917; AAA9879.1; -.  
DR EMBL; K01913; AAA9879.1; JOINED.  
DR EMBL; K01914; AAA9879.1; JOINED.  
DR EMBL; K01915; AAA9879.1; JOINED.  
DR EMBL; K01916; AAA9879.1; JOINED.  
DR EMBL; X03702; CAA27333.1; -.  
DR EMBL; X281010; CAB0263.1; -.  
DR EMBL; X00561; CAA25222.1; -.  
DR EMBL; X00561; CAA25229.1; -.  
DR PRINTER; PRO0438; GFCYSKNOT.  
DR PROSITE; PS00249; PDGF\_1; 1.  
DR PROSITE; PS00278; PDGF\_2; 1.  
KW Mitogen; Growth factor; Proto-oncogene; Platelet; Signal;  
KW Pharmaceutical; 3D-structure.  
FT SIGNAL 1 20  
FT PROPEP 21 81  
FT CHAIN 82 190  
FT PROPEP 191 241  
FT SITE 108 108  
FT SITE 111 111  
FT DISULFID 97 141  
FT DISULFID 130 178  
FT DISULFID 134 180  
FT DISULFID 124 124  
FT DISULFID 133 133  
FT DISULFID 21 21  
FT CONFLICT 101 101  
FT CONFLICT 105 105  
FT CONFLICT 107 107  
FT STRAND 90 91  
FT STRAND 94 94  
Query Match Score 110; DB 1; Length 241;  
Best Local Similarity 32.9%; Pred. No. 0.00036;



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CC	or send an email to license@isb-sib.ch).
CC	-----
CC	-----
EMBL; X05112; CAA8758.1; ALT_SEQ.	DR
PIR; A26402; TVCTSS.	DR
HSSP; P01127; IPDG.	DR
InterPro; IPR000072; -.	DR
InterPro; IPR02400; -.	DR
Pfam; PF00341; PDGF.	DR
PRINTS; PR004138; GFCYSKNOT.	DR
DR PROSITE; PS00249; PDGF_1;	DR
PS50278; PDGF_2;	DR
Mitogen; Growth factor; proto-oncogene; Platelet; Signal.	DR
KW BY SIMILARITY.	FT
FT SIGNAL 1 20	FT PROPEP 21 81
FT FT PLATELET-DERIVED GROWTH FACTOR, B CHAIN.	FT FT
FT CHAIN 82 194	FT PROPEP 195 245
FT FT BY SIMILARITY.	FT FT
FT DISULFID 101 145	FT DISULFID 134 182
FT FT BY SIMILARITY.	FT FT
FT DISULFID 137 177	FT DISULFID 139 139
FT FT INTERCHAIN (BY SIMILARITY).	FT FT
CARBODY 139 139 N-LINKED (GLCNAC . . .) (PROBABLE).	FT FT
VARSPLIC 198 200 GFF -> DVF (IN SHORT ISOFORM).	FT FT
VARSPLIC 201 226 MISSING (IN SHORT ISOFORM).	FT FT
CONFFLICT 199 209 MISSING (IN REF. 2).	FT FT
CONFFLICT 218 218 Q -> R (IN REF. 2).	FT FT
SEQUENCE 226 AA; E3E724FCF67C2FB2 CRC64;	FT FT
SEQUENCE 25719 MW; E7715291D9837512 CRC64;	FT FT
Query Match 14.3%; Score 108; DB 1; Length 226;	Query Match 14.2%; Score 107; DB 1; Length 245;
Best Local Similarity 30.8%; Pred. No. 0.00054;	Best Local Similarity 30.4%; Pred. No. 0.00074;
Matches 40; Conservative 15; Mismatches 43;	Matches 42; Conservative 15; Mismatches 45;
Indels 32; Gaps 9;	Indels 36; Gaps 10;
Matches 40; Conservative 15; Mismatches 43;	Matches 42; Conservative 15; Mismatches 45;
Indels 32; Gaps 9;	Indels 36; Gaps 10;
Qy 16 KAFVFGRKSRKVVDLNLTEEVRLYSCPTPRNFSVSTI REELKRTDTIF -WPGCLLYVKRCG 72	Qy 2 DIEDLYRPTWQLQKAFVFGRKs -RVDNLNLTEEVRLYSCPTRN - FSVS1REELKRT 57
Db 82 KRSPVSPRSKRKVSV-----EEAVPAICKTRIVYIPEPQSQIDPTSANFLIWPCVEYKRCT 135	Db 72 ELESSLR-----GRRSLGEAAGSPTAEPMIAECKTRTEFEVS RRLIDRT 118
Qy 73 GNCNAHNECQCVPSKTKYH-----EVQLRPTGVRLHKHSITDVALEHHE 124	Qy 58 DTIF - -WPGCLLYVKRGGNACCLHLNCNECQCVPSKTKY -----HEVYLQRPKTGVRG 110
Db 136 G---CC -NTFSSVKQPSRT --HHRSVKVARKEVTRKKP---- LKEVL -VRLEEH 180	Db 119 NANFLVWPCEVQRCSG --CC -NNRNQVCRETQVLRLVYRKIEVRKRP----- 167
Qy 125 ECDVCYRGST 134	Qy 111 LHSLSLTDALEHHHECDC 128
Db 181 ECTCTANSNS 190	Db 168 VFEKAT -VLEDLHACKC 184
RESULT 7	RESULT 7
VEGF_HUMAN	VEGF_HUMAN
ID	STANDARD
VEGF_HUMAN	STANDARD
AC P49765;	AC P49765;
DT 01-OCT-1996 (Rel. 34, Created)	DT 01-OCT-1996 (Rel. 34, Last sequence update)
DT 01-OCT-1989 (Rel. 12, Last sequence update)	DT 01-OCT-2000 (Rel. 40, Last annotation update)
DT 01-OCT-2000 (Rel. 40, Last annotation update)	DE VASCULAR ENDOTHELIAL GROWTH FACTOR B PRECURSOR (VEGF-B) (VEGF RELATED FACTOR).
DE PLATELET-DERIVED GROWTH FACTOR, B CHAIN PRECURSOR (PDGF B-CHAIN)	DE DE
DE (PDGFb) (C-SIS) (PDGF-2).	DE VEGFB OR VRF.
GN PDGF B OR SIS.	OS Homo sapiens (Human).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;	OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Carnivora; Fissipedia; Felidae; Felis.	OC Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
NCBI_TaxID=9685;	NCBI_TaxID=9606;
RN [1]-----	RN [1]
RP SEQUENCE FROM N.A.	RP SEQUENCE FROM N.A.
RX MEDLINE=8146463; PubMed=3822831;	RX MEDLINE=96197355; PubMed=8637916;
RA van den Ouwelander A.M.W.; van Groningen J.J.M.; Schalken J.A.,	RA Olofsson B.; Pajusola K.; Kaipainen A.; von Euler G.; Joukov V.,
RA van Neck H.W.; Bloemers H.P.J.; van de Ven W.J.M.;	RA Saksela O.; Orpana A.; Pettersson R.F.; Alitalo K.; Eriksson U.,
RA "Genetic organization of the c-sis transcription unit.";	RT "vascular endothelial growth factor B, a novel growth factor for endothelial cells."
RT Nucleic Acids Res. 15:959-970(1987).	RT Proc. Natl. Acad. Sci. U.S.A. 93:2576-2581(1996).
RN [2]-----	RN [2]
RP REVISIONS.	RP SEQUENCE FROM N.A.
RA Submitted (NOV-1996) to the EMBL/GenBank/DBJ databases.	RX GRIMMOND S.; Lagercrantz J.; Drinkwater C.; Silins G.; Townson S.,
CC FUNCTION: PLATELET-DERIVED GROWTH FACTOR IS A POTENT MITOGEN FOR	RA MEDLINE=97071124; PubMed=8919691;
CC CELLS OF MESSENCHYMAL ORIGIN. BINDING OF THIS GROWTH FACTOR TO ITS	RA Pollock P.; Gotley D.; Carlson E.; Rakar S.; Nordenskjöld M.; Ward L.,
CC AFFINITY RECEPTOR ELICITS A VARIETY OF CELLULAR RESPONSES. IT IS	RA Hayward N.; Weber G.;
CC RELEASED BY PLATELETS UPON WOUNDING AND PLAYS AN IMPORTANT ROLE	RT "Cloning and characterization of a novel human gene related to vascular endothelial growth factor."
CC IN STIMULATING ADJACENT CELLES TO GROW AND THEREBY HEAL THE WOUND.	RT
CC SUBUNIT: ANTIPARALLEL DISULFIDE-LINKED DIMER OF NONIDENTICAL (A	CC
CC AND B) CHAINS. HOMODIMERS OF A AND B CHAINS ARE IMPLICATED IN	CC
CC TRANSFORMATION PROCESSES.	CC
CC MISCELLANEOUS: A-A AND B-B, AS WELL AS A-B, DIMERS CAN BIND TO THE	CC
CC PDGF RECEPTOR.	CC
CC SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.	CC
CC	CC
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- RL Genome Res. 6:124-131(1996).  
 CC -1- FUNCTION: GROWTH FACTOR FOR ENDOTHELIAL CELLS. BINDS HEPARIN.  
 CC -1- SUBUNIT: HOMODIMER, DISULFIDE-LINKED. CAN ALSO FORM HETERO DIMER  
 CC WITH VEGF.  
 CC -1- SUBCELLULAR LOCATION: SECRETED BUT REMAINS ASSOCIATED TO CELLS OR  
 CC TO THE EXTRACELLULAR MATRIX UNLESS RELEASED BY HEPARIN.  
 CC -1- TISSUE SPECIFICITY: EXPRESSED IN ALL TISSUES EXCEPT LIVER.  
 CC HIGHEST LEVELS FOUND IN HEART, SKELETAL MUSCLE AND PANCREAS.  
 CC -1- SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.
- CC This SWISS-PROT entry is copyright. It is produced through a collaboration  
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- CC EMBL; U48801; AAB06274.1; -;  
 DR EMBL; U43365; AAA91463.1; -;  
 DR InterPro; IPR000072; -;  
 DR Pfam; PF00341; PDGF; 1.  
 DR PROSITE; PS00249; PDGF\_1.  
 DR PS00270; PDGF\_2; 1.  
 DR Mitogen; Growth factor; Signal; Heparin-binding.  
 FT SIGNAL 1 21 VASCULAR ENDOTHELIAL GROWTH FACTOR B.  
 FT CHAIN 22 188 AA; 21261 MW; F04654D5A3727194 CRC64;  
 SQ SEQUENCE 188 AA; 21261 MW;
- Query Match Score 14.0%; Score 105.5%; DB 1; Length 188;  
 Best Local Similarity 28.2%; Pred. No. 0.0008;  
 Matches 31; Conservative 22; Mismatches 40; Indels 17; Gaps 6;
- Qy 21 GRKRSVYD-INLLEEEVRLYSCKTPNFSVSTREELRRT-DTFWPCLLYKRGGGNCAAC 78  
 Db 30 GHQRKVVSVDYTRA---TCQPREVVVPLTVELMTGTVAKQLVPSCTVYQRCGG --CC 82
- Qy 79 LHNCNEQCQCVPSKVTKKYHEVYLQLRPKTGVRGLHKSLLTDVALEHHFECDC 128  
 Db 83 PD--DGLECVPTGHOVRMQLMIRPS----SOLGEMSLEEHQSQCEC 124
- RESULT 8  
 VEGF\_HUMAN STANDARD PRT; 215 AA.  
 ID VEGE\_HUMAN PRT; 215 AA.  
 AC P15622;  
 DT 01-APR-1990 (Rel. 14, Created)  
 DT 01-APR-1990 (Rel. 14, Last sequence update)  
 DT 15-JUL-1999 (Rel. 38, Last annotation update)  
 DE VASCULAR ENDOTHELIAL GROWTH FACTOR PRECURSOR (VEGF) (VASCULAR  
 DE PERMEABILITY FACTOR) (VPF).  
 OS Homo sapiens (Human).  
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
 OC Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.  
 OX NCBI\_TaxID=9606;  
 RN [1] RT  
 RX SEQUENCE FROM N.A.; PubMed=90069608;  
 RN MEDLINE=90069608; Pubmed=2479986;  
 RL Science 246:1306-1309 (1989).  
 [2] RT  
 RX SEQUENCE FROM N.A., AND PARTIAL SEQUENCE.  
 RN MEDLINE=90069609; PubMed=2479987;  
 RA Connolly D.T.; Keck P.J.; Hauser S.D.; Kriw G.; Sanzo K.; Warren T.; Feder J.;  
 RA "Vascular permeability factor, an endothelial cell mitogen related to  
 RT PDGF";

- RL Science 246:1309-1312(1989).  
 RN [3]  
 RN SEQUENCE FROM N.A.  
 RP RX  
 MEDLINE=1268072; PubMed=1711045;  
 RA Fischer E., Mitchell R., Hartman T., Silva M., Gospodarowicz D.,  
 RA Fiddes J.C., Abraham J.A.;  
 RA "The human gene for vascular endothelial growth factor. Multiple  
 RT protein forms are encoded through alternative exon splicing.";  
 RL J. Biol. Chem. 266:11941-11954 (1991).  
 RN [4]  
 RN SEQUENCE FROM N.A.  
 RP RX  
 MEDLINE=92231879; PubMed=1567395;  
 RA Wendel K., Marne D., Weich H.A.;  
 RA Connolly D.T., Olander J.V., Heuvelman D., Nelson R., Monsell R.,  
 RA Siegel N., Haymore B.L., Leingrubner R., Feder J.;  
 RT "ADS-associated Kapoor's sarcoma cells in culture express vascular  
 endothelial growth factor.";  
 RL Biochem. Biophys. Res. Commun. 183:1167-1174 (1992).  
 RN [5]  
 RP RX  
 PRELIMINARY SEQUENCE OF 27-36; 43-50 AND 59-81.  
 RX MEDLINE=90062112; PubMed=2584205;  
 RA Connolly D.T., Olander J.V., Heuvelman D., Nelson R., Monsell R.,  
 RA Siegel N., Haymore B.L., Leingrubner R., Feder J.;  
 RT "Human vascular permeability factor. Isolation from U937 cells.";  
 RL J. Biol. Chem. 264:20017-20024 (1989).  
 RN [6]  
 RP RX  
 SEQUENCE OF 27-41.  
 RX MEDLINE=93145946; PubMed=7678805;  
 RA Fliebich B.L., Jaeger B., Schoellmann C., Weindel K., Wilting J.,  
 RA Kochs G., Marne D., Hug H., Weich H.A.;  
 RT "Synthesis and assembly of functionally active human vascular  
 endothelial growth factor homodimers in insect cells.";  
 RL Eur. J. Biochem. 211:19-26 (1993).  
 RN [7]  
 RP RX  
 X-RAY CRYSTALLOGRAPHY (2.5 ANGSTROMS) OF 34-135.  
 RX MEDLINE=97352774; PubMed=9207067;  
 RA Muller Y.A., Li B., Christinger H.W., Wells J.A., Cunningham B.C.,  
 RA de Vos A.M.;  
 RT "Vascular endothelial growth factor: crystal structure and functional  
 mapping of the kinase domain receptor binding site.";  
 RL Proc. Natl. Acad. Sci. U.S.A. 94:7192-7197 (1997).  
 RN [8]  
 RP RX  
 X-RAY CRYSTALLOGRAPHY (1.93 ANGSTROMS) OF 34-135.  
 RX MEDLINE=9803455; PubMed=9351807;  
 RA Muller Y.A., Christinger H.W., Keyt B.A., de Vos A.M.;  
 RT "The crystal structure of vascular endothelial growth factor (VEGF)  
 refined to 1.93-A resolution: multiple copy of the complex between VEGF  
 RT binding";  
 RL Biochemistry 37:17765-17772 (1998).  
 RN [10]  
 RP RX  
 STRUCTURE BY NMR OF 34-135.  
 RN [9]  
 RP RX  
 X-RAY CRYSTALLOGRAPHY (1.1-9 ANGSTROMS) OF 39-134.  
 RX MEDLINE=99119204; PubMed=99221425;  
 RA Wiesemann C., Christinger H.W., Cochran A.G., Cunningham B.C.,  
 RA Fairbrother W.J., Keenan C.J., Meng G., de Vos A.M.;  
 RT "Crystal structure of the complex between VEGF and a receptor-blocking  
 peptide.";  
 RL Protein Sci. 6:2250-2260 (1997).  
 RN [11]  
 RP RX  
 STRUCTURE BY NMR OF 137-215.  
 RX MEDLINE=98239840; PubMed=9634701;  
 RA Fairbrother W.J., Champs M.A., Christinger H.W., Keyt B.A.,  
 RA Starovasnik M.A.;  
 RT "1H, 13C, and 15N backbone assignment and secondary structure of the  
 RT receptor-binding domain of vascular endothelial growth factor.";  
 RL Protein Sci. 6:2250-2260 (1997).  
 RN [12]  
 RP RX  
 Structure of the heparin-binding domain of vascular  
 RT endothelial growth factor.;"  
 RL Structure 6:637-648 (1998).  
 CC CC  
 CC "FUNCTION: GROWTH FACTOR ACTIVE IN ANGIOGENESIS, AND ENDOTHELIAL  
 CC CELL GROWTH. INDUCES ENDOTHELIAL PROLIFERATION AND VASCULAR

CC	-!- PERMEABILITY.		Qy	1.00 LQLRPKTVGRLHKSLLDVALEHHEECDC 128
CC	-!- SUBUNIT: HOMODIMER, DISULFIDE-LINKED.		Db	1.07 MARIKPHG----QHTGEMSFLQHNKBC 130
CC	-!- SECRETED BUT REMAINS ASSOCIATED TO CELLS OR			
CC	-!- TO THE EXTRACELLULAR MATRIX UNLESS RELEASED BY			
CC	-!- SIMILARITY).			
CC	-!- ALTERNATIVE PRODUCTS: FOUR FORMS OF VEGF ARE PRODUCED BY	RESULT 9		
CC	-!- ALTERNATIVE SPLICING OF THE SAME GENE (VEGF-121, VEGF-165,	ID PGDA_RAT		
CC	-!- VEGF-189 AND VEGF-215).	AC P28576;	STANDARD;	PRT; 204 AA.
CC	-!- SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.	AC		
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CC	use by non-profit institutions as long as its content is in no way	DT 01-OCT-2000 (Rel. 30, Last annotation update)		
CC	modified and this statement is not removed. Usage by and for commercial	DE PLATELET-DEIVED GROWTH FACTOR, A CHAIN PRECURSOR (PDGF A-CHAIN)		
CC	entities requires a license agreement (see <a href="http://www.isb-sib.ch/announce/">http://www.isb-sib.ch/announce/</a> ) or send an email to licensee@isb-sib.ch).	DE (PDGF-1).		
CC		GN PDGFA OR RP1.		
DR	EMBL: M32977; AAA25789.; JOINED.	OS Rattus norvegicus (Rat).		
DR	EMBL: M27281; AAA336804.; JOINED.	OC Buxariyota; Metacoa; Chordata; Craniata; Vertebrata; Euteleostomi;		
DR	EMBL: M633978; AAA336804.; JOINED.	OC Mammalia; Butheria; Rodentia; Sciurognath; Muridae; Murinae; Rattus.		
DR	EMBL: M633971; AAA336804.; JOINED.	RN [1.]	RP SEQUENCE OF 8-204 FROM N.A.	
DR	EMBL: M633972; AAA336804.; JOINED.	RX MEDLINE=93305723; PubMed=3318539;		
DR	EMBL: M633973; AAA336804.; JOINED.	RA Herrren B., Weyer K.A., Rouge M., Loetscher P., Pech M.;		
DR	EMBL: M633974; AAA336804.; JOINED.	RA Shibahara S., Takishima T.;		
DR	EMBL: M633975; AAA336804.; JOINED.	RT "Conservation in sequence and affinity of human and rodent PDGF		
DR	EMBL: M633976; AAA336804.; JOINED.	RT Ligands and receptors."		
DR	EMBL: M633977; AAA336804.; JOINED.	RL Biophys. Acta 1173:294-302(1993). [2.]		
DR	EMBL: M625268; CA044447.; JOINED.	RN SEQUENCE FROM N.A.		
DR	PIR: A34492; A34492.	RX MEDLINE=93191115; PubMed=8447423;		
DR	PIR: A40079; A40079.	RA Katayose D., Ohe M., Yamauchi K., Ogata M., Fujita H.,		
DR	PIR: A40080; A40080.	RA Herrren B., Weyer K.A., Rouge M., Loetscher P., Pech M.;		
DR	PIR: A40454; A40454.	RA "Increased expression of PDGF A- and B-chain genes in rat lungs with		
DR	PIR: B40454; B40454.	RT hypoxic pulmonary hypertension."		
DR	PIR: C40454; C40454.	RL Am. J. Physiol. 264:L100-L106(1993).		
DR	PIR: J01463; J0163.	RN [3.]	RP SEQUENCE FROM N.A. (SHORT FORM).	
DR	PIR: J01464; J0164.	RA Xia Y., Feng L., Tang W.W., Wilson C.B.;		
DR	PIR: S17348; S17348.	RT "Cloning and expression of rat platelet-derived growth factor		
DR	PDB; 1VGH; 08-APR-98.	RT A-chain."		
DR	PDB; 2VGH; 08-APR-98.	RL J. Am. Soc. Nephrol. 3:622-622(1992).		
DR	PDB; 1VPF; 08-APR-98.	RN [4.]	RP SEQUENCE OF 58-196 FROM N.A. (SHORT FORM).	
DR	PDB; 2VPF; 29-JUL-98.	RC STRA1N=FISCHER 344; TISSUE-Smooth muscle;		
DR	PDB; 1VPP; 23-FEB-99.	RX MEDLINE=93225589; PubMed=8469035;		
DR	MIM: 192240; -.	RA Szabo P., Weksler D., Whittington E., Weksler B.B.;		
DR	InterPro; IPR000072; -.	RT "The age-dependent proliferation of rat arctic smooth muscle cells is		
DR	Pram; PF00311; PDGF; 1.	RL independent of differential splicing of PDGF A-chain mRNA."		
DR	PROSITE; PS00249; PDGF; 1.	CC FUNCTION: PLATELET-DERIVED GROWTH FACTOR IS A POTENT MITOGEN FOR		
DR	PROSITE; PS5078; PDGF; 2.	CC CELLS OF MESOCHYMAL ORIGIN. BINDING OF THIS GROWTH FACTOR TO ITS		
KW	Mitogen; Growth factor; Glycoprotein; Alternative splicing; Signal;	CC AFFINITY RECEPTOR ELICTS A VARIETY OF CELLULAR RESPONSES. IT IS		
KW	3D-structure.	CC RELEASED BY PLATELETS UPON WOUNDING AND PLAYS AN IMPORTANT ROLE		
FT	SIGNAL 1 26	CC IN STIMULATING ADJACENT CELLS TO GROW AND THEREBY HEAL THE WOUND.		
FT	CHAIN 27 215	CC -!- SUBUNIT: ANTI PARALLEL DISULFIDE-LINKED DIMER OF NON IDENTICAL (A		
FT	DISULFID 52 94	CC AND B) CHAINS. HOMODIMERS OF A AND B CHAINS ARE IMPLICATED IN		
FT	DISULFID 83 128	CC CC TRANSFORMATION PROCESSES.		
FT	DISULFID 87 130	CC CC -!- SHORT FORM: ARE PRODUCED BY ALTERNATIVE SPLICING. THE LONG FORM		
FT	DISULFID 77 77	CC CC -!- CONTAINS A BASIC INSERT WHICH ACTS AS A CELL RETENTION SIGNAL.		
FT	DISULFID 86 86	INTERCHAIN.		
FT	CARBOHYD 101 101	N-LINKED (GLCNAC. . .).		
FT	VARSPLIC 141 141	K -> N (IN ISOFORM VEGF-121 AND ISOFORM		
FT	VARSPLIC 142 165	VEGF-165).		
FT	VARSPLIC 142 209	MISSING (IN ISOFORM VEGF-165).		
FT	SEQUENCE 215 AA; 25173 MW;	MISSING (IN ISOFORM VEGF-121).		
CC		TB9759AD587FF33 CRC64;		
CC		CC -!- MISCELLANEOUS: A-A AND B-B, AS WELL AS A-B, DIMERS CAN BIND TO THE		
CC		CC PDGF RECEPTOR.		
CC		CC -!- SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.		
CC		CC This SWISS-PROT entry is copyright. It is produced through a collaboration		
CC		CC between the Swiss Institute of Bioinformatics and the EMBL outstation -		
CC		CC the European Bioinformatics Institute. There are no restrictions on its		
CC		CC use by non-profit institutions as long as its content is in no way		
CC		CC modified and this statement is not removed. Usage by and for commercial		
CC		CC entities requires a license agreement (See <a href="http://www.isb-sib.ch/announce/">http://www.isb-sib.ch/announce/</a> or send an email to licensee@isb-sib.ch).		

Query Match 13.9%; Score 104.5; DB 1; Length 215;  
 Best Local Similarity 27.0%; Pred. No. 0.0012; Mismatches 21; Indels 11; Gaps 4;  
 Matches 24; Conservative 21; Nucleotides 33;

Qy 41 CTPRNFSVYIIRDTIIPGCLLKVRCGGNCACCLHNCNECQCPSTSIVTKKYHEV 99  
 Db 52 CHPIELTLDIFQEPDTEYIKPSCYDLMRCGG---CC-NDDELCVPTEEESNITMOI 106

- |           |    |  |                                 |    |   |    |  |
|-----------|----|--|---------------------------------|----|---|----|--|
| CC        | DR | DR   | different precursor proteins."; | RT | RL  |    |  |
| EMBL      | DR | EMBL; Z14120; CAA78490.1;  |                                 | RP | SEQUENCE FROM N.A.  |    |  |
| EMBL      | DR | EMBL; D10106; BAA00987.1;  |                                 | RX | MEDLINE=86233630; PubMed=3754619;   |    |  |
| EMBL      | DR | EMBL; L06238; AAA41932.1;  |                                 | RA | Betsholtz C., Johansson A., Heldin C.H., Westermark B., Lind P., Knott T.J., Urdea M.S., Eddy R., Shows T.B., Philpott K., Mellor A.L., Scott J.; |    |  |
| DR        | DR | HSSP; P01127; IPDG.  |                                 | RA | "Platelet-derived growth factor A chain: gene structure, chromosomal location, and basis for alternative mRNA splicing."                          |    |  |
| InterPro  | DR | IPR000072; -.  |                                 | RT | Proc. Natl. Acad. Sci. U.S.A. 85:1492-1496(1988).   |    |  |
| InterPro  | DR | IPR002400; -.  |                                 | RT | SEQUENCE FROM N.A.  |    |  |
| Pfam      | DR | PF00341; PDGF; 1.  |                                 | RX | MEDLINE=88174598; PubMed=2832727;   |    |  |
| PRINTS    | DR | PS00438; GFCEYSKNOTPROSITE; PS00249; PDGF_1; PROSITE; PS5028; PDGF_2; 1.             |                                 | RA | Rorsman F., Bywater M., Knott T.J., Scott J., Betsholtz C.;   |    |  |
| PROPEP    | FT | SIGNAL 1 20 BY SIMILARITY.   |                                 | RA | "Structural characterization of the human platelet-derived growth factor A-chain and gene: alternative exon usage predicts two                    |    |  |
| PROPEP    | FT | PROPEP 21 85 REMOVED BY PROTEOLYSIS.   |                                 | RA | factor A-chain cDNA and gene; alternative exon usage predicts two   |    |  |
| FT        | FT | CHAIN 86 204 PLATELET-DERIVED GROWTH FACTOR, A CHAIN.                                |                                 | RA | factor A-chain cDNA and gene; alternative exon usage predicts two   |    |  |
| FT        | FT | SITE 158 162 RECEPTOR BINDING SITE (POTENTIAL).                                      |                                 | RA | factor A-chain cDNA and gene; alternative exon usage predicts two   |    |  |
| FT        | FT | DISULFID 96 140 BY SIMILARITY.   |                                 | RP | SEQUENCE OF 1-53 FROM N.A.  |    |  |
| FT        | FT | DISULFID 129 177 BY SIMILARITY.  |                                 | RX | MEDLINE=9322628; PubMed=8486521;  |    |  |
| FT        | FT | DISULFID 133 179 BY SIMILARITY.  |                                 | RA | Takimoto Y., Li W.Y., Wang Z.Y., Tong B.D., Deuel T.F.;   |    |  |
| FT        | FT | DISULFID 123 123 INTERCHAIN (BY SIMILARITY).   |                                 | RA | "The long 3'-untranslated regions of the 5' region of the human platelet-derived  |    |  |
| FT        | FT | DISULFID 132 132 INTERCHAIN (BY SIMILARITY).   |                                 | RT | distantly related."   |    |  |
| FT        | FT | CARBODY 134 134 N-LINKED (GLUCNAc . . .) (BY SIMILARITY).                            |                                 | RT | growth factor A-chain gene."  |    |  |
| FT        | FT | VARSPLIC 194 196 GRR -> DVR (IN SHORT ISOFORM).                                      |                                 | RL | RT  | RT |  |
| FT        | FT | VARSPLIC 197 204 MISSING (IN SHORT ISOFORM).   |                                 | RN | RT  | RT |  |
| CONFFLICT | FT | CONFFLICT 85 111 KRSTEAPAVKTKRTYIEPIRSQVD -> REVLRKPPQQFARPGSFSTRYLGARW (IN REF. 2). |                                 | RP | ALTERNATIVE SPlicing.   |    |  |
| FT        | FT | CONFFLICT 119 119 I -> T (IN REF. 3).  |                                 | RX | MEDLINE=87287247; PubMed=36143633;  |    |  |
| SEQUENCE  | FT | SEQUENCE 204 AA; 23307 MW; FA413F74E866F742C CRC64;                                  |                                 | RA | Tong B.D., Auer D.E., Jaye M., Kaplow J.M., Ricca G., McConathy E.,   |    |  |
| CC        | DR | KW Glycoprotein; Mitogen; Growth factor; Platelet; Platelet; Alternative splicing;   |                                 | RA | Drohan W., Deuel T.F.;  |    |  |
| CC        | DR | CC SIGNAL 1 20 BY SIMILARITY.  |                                 | RA | "cDNA clones reveal differences between human glial and endothelial   |    |  |
| CC        | DR | PROPEP 21 85 REMOVED BY PROTEOLYSIS.   |                                 | RT | cell platelet-derived growth factor A-chains."  |    |  |
| CC        | DR | FT   |                                 | RT | Nature 328:619-621(1987).   |    |  |
| CC        | DR | FT   |                                 | RN |   |    |  |
| CC        | DR | FT   |                                 | FT | [7]   |    |  |
| CC        | DR | FT   |                                 | FT | ALTERNATIVE SPlicing.   |    |  |
| CC        | DR | FT   |                                 | FT | MEDLINE=87287248; PubMed=3614366;   |    |  |
| CC        | DR | FT   |                                 | RA | Collins T., Bontrhorn D.T., Orkin S.H., Hellman U.,   |    |  |
| CC        | DR | FT   |                                 | RA | George-Nascimento C., Westermark B., Heldin C.H.;   |    |  |
| CC        | DR | FT   |                                 | RT | "Assignment of interchain disulfide bonds in platelet-derived growth  |    |  |
| CC        | DR | FT   |                                 | RT | factor (PDGF) and evidence for agonist activity of monomeric PDGF."   |    |  |
| CC        | DR | FT   |                                 | RL | J. Biol. Chem. 267:11261-11266 (1992).  |    |  |
| CC        | DR | FT   |                                 | RP | INTERCHAIN DISULFIDE BONDS.   |    |  |
| CC        | DR | FT   |                                 | RX | MEDLINE=92283833; PubMed=1317862;   |    |  |
| CC        | DR | FT   |                                 | RA | Andersson M., Oestman A., Baekstroem G., Hellman U.,  |    |  |
| CC        | DR | FT   |                                 | RA | George-Nascimento C., Westermark B., Heldin C.H.;   |    |  |
| CC        | DR | FT   |                                 | RT | "Assignment of interchain disulfide bonds in platelet-derived growth  |    |  |
| CC        | DR | FT   |                                 | RT | factor (PDGF) and evidence for agonist activity of monomeric PDGF."   |    |  |
| CC        | DR | FT   |                                 | RL | J. Biol. Chem. 267:11261-11266 (1992).  |    |  |
| CC        | DR | FT   |                                 | CC | -!- FUNCTION: PLATELET-DERIVED GROWTH FACTOR IS A POTENT MITOGEN FOR  |    |  |
| CC        | DR | FT   |                                 | CC | CELLS OF MESENCHYMAL ORIGIN. BINDING OF THIS GROWTH FACTOR TO ITS   |    |  |
| CC        | DR | FT   |                                 | CC | AFFINITY RECEPTOR ELICTS A RESPONSE OF CELLULAR IMPORTANCE.   |    |  |
| CC        | DR | FT   |                                 | CC | RELEASED BY PLATELETS UPON WOUNDING AND PLAYS AN IMPORTANT ROLE   |    |  |
| CC        | DR | FT   |                                 | CC | IN STIMULATING ADJACENT CELLS TO GROW AND THEREBY HEAL THE WOUND.   |    |  |
| CC        | DR | FT   |                                 | CC | -!- SUBUNIT: ANTI PARALLEL DISULFIDE-LINKED DIMER OF NONIDENTICAL (A  |    |  |
| CC        | DR | FT   |                                 | CC | AND B) CHAINS. HOMODIMERS OF A AND B CHAINS ARE IMPLICATED IN   |    |  |
| CC        | DR | FT   |                                 | CC | TRANSFORMATION PROCESSES.   |    |  |
| CC        | DR | FT   |                                 | CC | -!- ALTERNATIVE PRODUCTS: 2 ISOPORMS; A LONG FORM (SHOWN HERE) AND A  |    |  |
| CC        | DR | FT   |                                 | CC | SHORT FORM; ARE PRODUCED BY ALTERNATIVE SPLICING. THE LONG FORM   |    |  |
| CC        | DR | FT   |                                 | CC | CONTAINS A BASIC INSERT WHICH ACTS AS A CELL RETENTION SIGNAL.  |    |  |
| CC        | DR | FT   |                                 | CC | -!- MISCELLANEOUS: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.   |    |  |
| CC        | DR | FT   |                                 | CC | -!- PDGF RECEPTOR.  |    |  |
| CC        | DR | FT   |                                 | CC | -!- SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.  |    |  |
| CC        | DR | FT   |                                 | CC | -!- DATABASE: NAME=RDS systems, cytokine source book;   |    |  |
| CC        | DR | FT   |                                 | CC | WWW="http://www.rdsystems.com/cyt_cat/pdgf.html".   |    |  |
| CC        | DR | FT   |                                 | CC | This SWISS-PROT entry is copyright. It is produced through a collaboration  |    |  |
| CC        | DR | FT   |                                 | CC | between the Swiss Institute of Bioinformatics and the EMBL outstation   |    |  |
| CC        | DR | FT   |                                 | CC | the European Bioinformatics Institute. There are no restrictions on   |    |  |
| CC        | DR | FT   |                                 | CC | use by non-profit institutions as long as its content is in no  |    |  |
| CC        | DR | FT   |                                 | CC | modified and this statement is not removed. Usage by and for commercial   |    |  |
| CC        | DR | FT   |                                 | CC | entities requires license agreement (See http://www.isb-sib.ch/antouni/ or send an email to license@isb-sib.ch).                                  |    |  |
| CC        | DR | FT   |                                 | CC | or send an email to license@isb-sib.ch).  |    |  |



FT CHAIN 87 211 PLATELET-DERIVED GROWTH FACTOR, A CHAIN.  
 FT SITE 158 162 RECEPTOR BINDING SITE (POTENTIAL).  
 FT DISULFID 96 140 BY SIMILARITY.  
 FT DISULFID 129 177 BY SIMILARITY.  
 FT DISULFID 133 179 BY SIMILARITY.  
 FT DISULFID 123 123 INTERCHAIN (BY SIMILARITY).  
 FT DISULFID 132 132 INTERCHAIN (BY SIMILARITY).  
 FT CARBOHYD 134 134 N-LINKED (GLCNAC).  
 FT VARSPLIC 194 196 GRR > DVR (IN SHORT ISOFORM).  
 FT VARSPLIC 197 92 MISSING (IN SHORT ISOFORM).  
 FT CONFLICT 92 92 V -> I (IN REF. 2).  
 FT CONFLICT 174 174 H -> D (IN REF. 1).  
 SQ SEQUENCE 211 AA: 24102 MW: AC4345A10ECFA4B39 CRC64;

Matches 36; Conservative 12; Mismatches 34; Indels 26; Gaps 9;  
 Qy 32 LTEEVRLLSCTPPN--FVSIREBELKRTDTIF--WPGCLLVKRCGGNCACCLHNCNEOCQC 87  
 Db 73 VAEPAMIAECKTRTEFEELIS-KRLIDRTNANELWPPVEVQRCGSG--CC--NNRNVQC 126

FT 88 VPSKVTKYHEVQLRP--KTGV---RGHKSLTDALEHHEECDC 128  
 FT 127 RPTQV----QLRPVQRKTEIVRKPKPIFKKAT-VTLEDHLACKC 165

RESULT 13  
 ID VEGH\_ORFEN2 STANDARD; PRT; 133 AA.  
 ID P52584;  
 AC P52584;  
 DT 01-OCT-1996 (Rel. 34, Created)  
 DT 01-OCT-1996 (Rel. 34, Last sequence update)  
 DT 01-OCT-2000 (Rel. 40, Last annotation update)  
 DE VASCULAR ENDOTHELIAL GROWTH FACTOR HOMOLOG PRECURSOR.  
 GN A2R.  
 OS Orf virus (strain NZ2) (OV NZ-2).  
 OC Viruses; dsDNA viruses, no RNA stage; Poxviridae; Chordopoxvirinae;  
 OC Parapoxvirus.  
 RN [1]  
 RP SEQUENCE FROM N A.  
 MEDLINE-94076465; PubMed=8254780;  
 RA Lytle D.J., Fraser K.M., Fleming S.B., Mercer A.A., Robinson A.J.;  
 RT "Homologs of vascular endothelial growth factor are encoded by the poxvirus orf virus."  
 RL J. Virol. 68:84-92(1994).  
 CC -!- FUNCTION: INDUCES ENDOTHELIAL PROLIFERATION.  
 CC -!- SUBUNIT: HOMODIMER, DISULFIDE-LINKED (BY SIMILARITY).  
 CC -!- SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.

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CC EMBL: S67520; AA829220; 2;  
 DR HSSP: P15692; 1VPF.  
 DR InterPro: IPR000072; .  
 DR Pfam: PF00341; PDGF; 1.  
 DR PROSITE: PS00249; PDGF; 1.  
 DR PROSITE: PS50278; PDGF; 2; 1.  
 KW Mitogen; Growth factor; Glycoprotein; Signal.  
 FT SIGNAL 1 ?  
 CC POTENTIAL.  
 FT CHAIN ?  
 DR VASCULAR ENDOTHELIAL GROWTH FACTOR HOMOLOG.  
 CC "Nucleotide sequence of the simian sarcoma virus genome; demonstrating gene product p28.";  
 CC "Transforming gene product p28.";  
 CC "Proc. Natl. Acad. Sci. U.S.A. 80:731-735(1983)."  
 CC "V-SIL.";  
 CC "Simian sarcoma virus.";  
 CC "Retroviridae; Retroviruses; Mammalian type C retroviruses.";  
 CC "NCBI\_TaxID=11817;"  
 RN [1]  
 RP SEQUENCE FROM N A.  
 RX MEDLINE-93144004; PubMed=6298772;  
 RA Devare S.G., Reddy E.P., Robbins K.C., Aaronson S.A.;  
 RT "Nucleotide sequence of the simian sarcoma virus genome; demonstrating gene product p28.";  
 RT "Transforming gene product p28.";  
 CC "Proc. Natl. Acad. Sci. U.S.A. 80:731-735(1983)."  
 CC "V-SIL.";  
 CC "BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.".

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CC EMBL: Y01201; CAA24516.1; ALT\_INIT.  
 DR PIR: A0381; TVMYSS.  
 DR InterPro: IPR002400; .  
 DR InterPro: IPR002400; .  
 DR Pfam; PF00341; PDGF; 1.  
 DR PRINTS; PR00438; OCFYSKNOT.  
 DR PROSITE; PS00249; PDGF; 1.  
 DR PROSITE; PS50278; PDGF; 1.  
 KW Transforming protein; Oncogene; Growth factor.  
 SQ SEQUENCE 226 AA: 2541 MW; A16813AB95B90C5 CRC64;

Query Match 13.6%; Score 102.5; DB 1; Length 133;  
 Best Local Similarity 30.5%; Pred. No. 0.0011; Indels 15; Gaps 6;  
 Matches 32; Conservative 18; Mismatches 40;

Qy 33 TEEEVRLSCTPPNSVSTRE--ELKRDTIWPGLLVKRCGGNCACCLHNCNEOCQCVP 89  
 Db 28 SEVLKGSECKPRPIVVPSETHPL-TSQRNNPCVTLMRGG--CC--NDESLECPV 80

Query Match 90 SKVTKYHEVQLRPTKTVGRGLHKSLTDALEHHEECDCVCRGST 134  
 Best Local Similarity 33.3%; Pred. No. 0.0014; Length 226;

Db 81 TEEEVNSMELLG-ASGSNSNHQR---LSFVEHKKCDRPRFTT 120



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FT      REPEAT    275      298      1.
FT      REPEAT    299      322      2.
FT      REPEAT    323      346      3.
FT      REPEAT    347      365      4 (PARTIAL).
FT      CARBOHYD   175      175      N-LINKED (GLCNAC. .) (POTENTIAL).
FT      CARBOHYD   205      205      N-LINKED (GLCNAC. .) (POTENTIAL).
FT      CARBOHYD   240      240      N-LINKED (GLCNAC. .) (POTENTIAL).
SQ      SEQUENCE   419 AA;  46883 MW;  9F598719DB3E014F CRC64;

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Query Match          13 6%;  Score 102.5;  DB 1;  Length 419;
Best Local Similarity 28.2%; pred. No. 0.0036;
Matches 31; Conservate 15; Mismatches 43; Indels 21; Gaps 6;

```

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Qy  29 LNLTEEVRLYSTPRNFSVIREEL-KRDTIFWPGCCLLVKRCGGNCACCLHNNECQC 87
Db  119 LKSLIDNEWRKTOCMPREVCDVGREFGVATNTFFKPPCVSYRCGG--CC-NSEGLQC 173
Qy  88 V---PSKVTKKYHEV---LQLRPKIGVRGLHKSLLTDALEHHHEECDCVCR 131
Db  174 MNNTSTSYLSKTLFETTVPLSQGPKP-----VTISFANHTSRCMSK 214

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Search completed: August 18, 2001, 01:54:44  
 Job time: 290 sec

GenCore version 4.5  
 Copyright (c) 1993 - 2000 Compugen Ltd.  
  
**Q9M protein - protein search, using sw model**  
  
 Run on: August 18, 2001, 01:48:14 ; Search time 98.1 Seconds  
 (without alignments)  
 183.420 Million cell updates/sec  
  
 Title: US-09-457-066-2\_COPY\_210\_345  
 Perfect score: 754  
 Sequence: 1 LDLEDLYRPTWQLLGKAFVF . . . . . DVALEHHFECDCVCRGSTGG 136  
  
 Scoring table: BLOSUM62  
 Gapop 10.0 , Gapext 0.5  
  
 Searched: 425026 seqs, 1322305027 residues  
  
 Total number of hits satisfying chosen parameters: 425026  
  
 Minimum DB seq length: 0  
 Maximum DB seq length: 2000000000  
  
 Post-processing: Minimum Match 08

Database : SPREMBL\_16 : \*  
1: sp\_archaea : \*  
2: sp\_bacteria : \*  
3: sp\_fungi : \*  
4: sp\_human : \*  
5: sp\_invertebrate : \*

sp.\_animal: \*  
7: sp.\_mhc: \*  
8: sp.\_organelle: \*  
9: sp.\_phage: \*  
10: sp.\_plant: \*  
11: sp.\_rodent: \*  
12: sp.\_unclassified: \*  
13: sp.\_vertebrate: \*  
14: sp.\_virus: \*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution

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Result No.	Score	Query Match	Length	DB ID	Description
1	754	100.0	345	4 Q9UL22	Q9i122 homo sapien
2	754	100.0	345	4 Q9NRA1	Q9NRA1 homo sapien
3	697	92.4	345	11 Q9QY71	Q9QY71 mus musculu
4	681	90.3	345	11 Q9JHV8	Q9JHV8 mus musculu
5	679	90.1	345	11 Q9EQX6	Q9EQX6 rattus norv
6	673	89.3	345	13 Q9I946	Q9i946 gallus gall
7	346.5	46.0	370	11 Q9EQT1	Q9EQT1 rattus norv
8	344.5	45.7	370	4 Q9GZP0	Q9GZP0 homo sapien
9	121.5	16.1	326	11 Q35251	Q35251 rattus norv
10	119.5	15.8	358	11 P97946	P97946 mus musculu
11	117	15.5	148	13 Q42571	Q42571 xenopus lae
12	117	15.5	194	13 Q42572	Q42572 xenopus lae
13	116	15.4	354	4 Q43915	Q43915 homo sapien
14	110	14.6	185	4 Q15354	Q15354 homo sapien
15	110	14.6	226	4 Q9UF23	Q9UF23 homo sapien
16	107	14.2	210	6 Q29613	Q29613 felis silve
17	105.5	14.0	207	4 Q16528	Q16528 homo sapien
18	104.5	13.9	147	4 Q9UH58	Q9UH58 homo sapien
19	104.5	13.9	171	4 Q9H1W8	Q9H1W8 homo sapien

ATTACHMENT

RESULT	1
Q9UJ22	PRELIMINARY;
ID Q9UJ22;	PRT;
AC Q9UJ22;	345 AA.
DT 01-MAY-2000	(TREMBLrel. 13, Created)
DT 01-MAY-2000	(TREMBLrel. 13, Last sequence update)
DT 01-MAR-2001	(TREMBLrel. 16, Last annotation update)
DE SECRETORY GROWTH FACTOR-LIKE PROTEIN FALLOTEIN (SPINAL CORD-DERIVED	

GN	HSCDGF.
OS	<i>Homo sapiens</i> (Human).
OC	<i>Eukaryota</i> ; <i>Metazoa</i> ; <i>Chordata</i> ; <i>Craniata</i> ; <i>Vertebrata</i> ; <i>Euteleostomi</i> ;
OC	<i>Mammalia</i> ; <i>Eutheria</i> ; <i>Primates</i> ; <i>Catarrhini</i> ; <i>Hominoidea</i> ; <i>Homoo</i> .
OC	

```

RN      [1]
RP      SEQUENCE FROM N.A.
RC      TISSUE=UTERUS;
RA      TSIAI Y.J., Lee R.K.K., Lin S.P. ;
RT      "Fratollin, a novel growth factor like gene identified in human
RT      uterus." ;
RL      Submitted (SEP-1998) to the EMBL/GenBank/DBJ databases.
RN      [2]
RP      SEQUENCE FROM N.A.
RC      TISSUE=BRAIN;
RX      MEDLINE=20317014; PubMed=10858496;
RA      Hamada T., Ue-Tei K., Miyata Y. ;
RT      "A novel gene derived from developing spinal cords, SCDF, is a unique
RT      member of the PDGF/YEGF family." ;
RL      FEBS Lett. 475:97-102 (2000).
DR      AF091434; AA000049.1; -
DR      AB033831; BAB03266.1; -
DR      InterPro: IPR000072;
DR      InterPro: IPR0000859;
DR      Pfam: PF00341; PDGF;
DR      Pfam: PF00431; CUB;
DR      PROSITE; PS01180; CUB;
DR      PROSITE; PS50278; PDGF_2;
DR      SMART; SM00042; CUB;

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Onions Mattoh 100 No. 60000 75A. No A. month 24E.



Db	210	VLDLSLYKPTWQLLGKAFLVYKKSKVVNNLKEEVKLVSCTPRNFSVSIREELKRTDT	269	RL	PEBS Lett. 475:97-102(2000). .
Qy	61	FNPGLCLIVKRCGGNCACCLHNCGNECQCVPSKVKYHEVLQLRPTKGVRGLHKSILTDVAL	120	DR	EMBL; AB031829; BAB03265.1; .
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ID	Q9EQX6;		Best Local Similarity	86.8%;	Pred. No. 2.7e-66;
AC	Q9EQX6;		Matches	118;	Mismatches 7; Indels 0; Gaps 0;
DT	01-MAR-2001 (TREMBLrel. 16, Created)				
DR	01-MAR-2001 (TREMBLrel. 16, Last sequence update)				
DE	01-MAR-2001 (TREMBLrel. 16, Last annotation update)				
GN	SPINAL CORD-DERIVED GROWTH FACTOR.				
OS	Rattus norvegicus (Rat).				
OC	Mammalia; Metazoa; Chordata; Craniata; Euteleostomi;				
OC	Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Rattus.				
RN	[1]				
RP	SEQUENCE FROM N.A.				
RC	STRAIN=KISTER; TISSUE=KIDNEY;		RESULT	7	
RA	Hamada T., Ui-Tei K., Imaki J., Miyata Y.;		Q9EQT1		
RA	"Molecular Cloning of SCDFB, a Novel Growth Factor Homologous to SCDF/C-fallotein."		ID	PRELIMINARY;	PRP; 370 AA.
RT	SCDF/C-fallotein."		AC	Q9EQT1;	
RT	Biochem. Biophys. Res. Commun. 0:0-0(2000).		DT	01-MAR-2001 (TREMBLrel. 16, Created)	
DR	EMBL; AB031830; BAB19965.1; -.		DT	01-MAR-2001 (TREMBLrel. 16, Last sequence update)	
SO	SEQUENCE 345 AA;	38734 MW;	DB	01-MAR-2001 (TREMBLrel. 16, Last annotation update)	
Qy	1	LDEDLYKPTWQLLGKAFLVYKKSKVVNNLKEEVKLVSCTPRNFSVSIREELKRTDT	60	DE	SPINAL-CORD DERIVED GROWTH FACTOR-B.
Db	210	IDDLSLYKPTWQLLGKAFLVYKKSKVVNNLKEEVKLVSCTPRNFSVSIREELKRTDT	269	GN	RSCDF-B.
Qy	61	FNPGLCLIVKRCGGNCACCLHNCGNECQCVPSKVKYHEVLQLRPTKGVRGLHKSILTDVAL	120	OS	Rattus norvegicus (Rat).
Db	270	FNPGLCLIVKRCGGNCACCLHNCGNECQCVPSKVKYHEVLQLRPTKGVRGLHKSILTDVAL	329	OC	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Qy	121	EHHEECDCVCRGTTGG	136	OC	Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Rattus.
Db	330	EHHEECDCVCRGTTGG	345	OX	Orcinus orca; Ichthyophaga; Aves; Neognathae; Galliformes; Phasianidae;
SEQUENCE	345 AA;	42809 MW;	RN	Archosauria; Aves; Neognathae; Galliformes; Phasianidae;	
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RC	STRAIN=WHITE LEGHORN; TISSUE=SPINAL CORD;		Q9GPZP0		
RX	Medline=20317014 PubMed=10858496;		ID	PRELIMINARY;	PRP; 370 AA.
RA	Hamada T., Ui-Tei K., Miyata Y.;		AC	Q9GPZP0;	
RT	"A novel gene derived from developing spinal cords, SCDFB, is a unique member of the PDGF/VEGF family."		DT	01-MAR-2001 (TREMBLrel. 16, Created)	

DT	01-MAR-2001	(TREMBLref. 16, Last sequence update)
DE	01-MAR-2001	(TREMBLref. 16, Last annotation update)
SPINAL CORD-DERIVED GROWTH FACTOR-B (MST036).		
GN	HSCDGFB-B.	
OS	Homo sapiens (Human).	
OC	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;	
OC	Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.	
OX		
RN	[1]	
RP	SEQUENCE FROM N.A.	
RA	Hamada T., Ue-Tei K., Imaki J., Miyata Y.;	
RA	"Molecular Cloning of SCDFB-B, a Novel Growth Factor Homologous to	
RT	SCDFB/PDGF-C/follitropin."	
RT	Biochem. Biophys. Res. Commun. 0:0-0(2000).	
RL		
RN	[12]	
RP	SEQUENCE FROM N.A.	
RC	TISSUE=AORTA;	
RA	Liu B., Liu Y.Q., Wang X.Y., Zhao B., Shang H., Zhao X.W., Liu S.,	
RA	Xu Y.Y., Ye J., Song L., Gao Y., Zhang C.L., Zhang J., Wei Y.J., Qiang B.Q.,	
RA	Cao H.Q., Zhao Y., Liu L.S., Ding J.F., Gao R.L., Wu Q.Y.,	
RA	Yuan J.G., Liew C.C., Zhao M.S., Hui R.T.,	
RL	Submitted (DEC 1998) to the EMBL/GenBank/DBJ databases.	
DR	EMBL: AB033832; BAB18903.1; -.	
DR	EMBL: AFI13216; AAG19287.1; -.	
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Db	293 FPRGLLWQRGGNCGTWNRSCTONSNGKTVKKYHEVLQFEPGHHKRRGAKTMALVDI 352	
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AC	AFO1827; AAB66557.1;	
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RT	01-JAN-1998 (TREMBLref. 05, Last sequence update)	
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DE	VASCULAR ENDOTHELIAL GROWTH FACTOR D.	
GN	VEGF-D.	
CS	Rattus norvegicus (Rat).	
OC	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;	
OC	Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Rattus.	
OX		
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RC	STRAIN=SPRAGUE DALEY;	
RX	MEDLINE=7349118; PubMed=9205122;	
RA	Yamada Y., Nezu J., Shimane M., Hirata Y.;	
RT	"Molecular cloning of a novel vascular endothelial growth factor, VEGF-D.";	
RT	Genomics 42:483-488(1997).	
RL	EMBL; AFO1827; AAB66557.1; -.	
DR	HSSP; P15692; 1VPP.	
DR	InterPro; IPR000072; -.	
DR	Pfam; PF00341; PDGF; 1.	
DR	ProDom; PD001629; - 1.	
DR	PROSITE; PS00249; PDGF_1.	
DR	PROSITE; PS50278; PDGF_2; 1.	
DR	SMART; SM00141; PDGF_1.	
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Best Local Similarity	33.3%;	Pred. No. 3 6e-05;
Matches	36;	Conservative 15; Mismatches 42; Indels 15; Gaps 6;
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Db	104 LKVIDBEWQRQCSPRETCVASELGTKTNTFFKPKCVNFRGG --CC--NEEGVMC 158	
Query	88 V--PSKVTKYHEVLQLRPTGVRLHKSLTDVALEHHECDCVCRG 132	
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Qy 3 LEDLYRPT----WOL-----LGRAFVGRKSR-----VVIDLNLTEEVRLY 39  
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Qy 40 SCTPRNFSVSTREEL-KRTDTFWPGCLLVKRGGNACCLHNCNFC-QCVPSKVTHKKYH 97  
 Db 110 QCSPRETCVVAESELGKSTNTFEKPCVANFRCGG---CCNEESLICMNTTSYISKQLF 166

Qy 98 EVQLRPKTYGVLKSLTDYALEHHEECDCV 129  
 Db 167 EISV--PLTTSV---PELVVKVANHTGCKCL 192

**RESULT 14**

Q15354 PRELIMINARY; PRT; 185 AA.

AC 015354

DT 01-NOV-1996 (TREMBLrel. 01, Created)  
 DT 01-MAR-1996 (TREMBLrel. 01, Last sequence update)  
 DE 01-MAR-2001 (TREMBLrel. 16, Last annotation update)  
 C-SIS PROTO-ONCOGENE (FRAGMENT).

OS Homo sapiens (Human).  
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
 OC Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.  
 NCBI\_TAXID=9606;

RN [1]

SEQUENCE FROM N.A.  
 TISSUE=CHORIOCARCINOMA;  
 MEDLINE=953388493; PubMed=7659502;  
 RA Dirks R.P.H., Onnekink C., Jansen H.J., de Jong A., Bloemers H.P.J.;  
 RT "A novel human c-sis mRNA species is transcribed from a promoter in c-  
 sis intron 1 and contains the code for an alternative PDGF B-like  
 protein.";  
 RL Nucleic Res 23:2815-2822(1995).  
 EMBL: X83705; CAA58679.1;  
 HSSP; P01127; IPDG.  
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 Db 57 ELESLAR-----GRRS---LGSLLTAEPAMIAECKTRTEVFVIS-RRLIDRT 99

Qy 58 DTIF--WPGCLLVKRGGNACCLHNCNFCQPSKVTHKKYHEVLQLRP---KTGV--- 108  
 Db 100 NANFLWVPPCVCVQRCSG---CC--NNRNVQCRPTQV-----QLRPVQVRKIEIVRK 146

Qy 109 RGLIKSLTDYALEHHEECDC 128  
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**RESULT 15**

Q9UF23 PRELIMINARY; PRT; 226 AA.

ID Q9UF23  
 AC Q9UF23;  
 DT 01-MAY-2000 (TREMBLrel. 13, Created)



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 About: Results were produced by the GenCore software, version 4.5,  
 Copyright (c) 1993-2000 Compugen Ltd.

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Query length: 136

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ACCESSION	AX027935	VERSION	AX027935.1 GI:10188752
KEYWORDS	human.	SOURCE	Homo sapiens
ORGANISM	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.	REFERENCE	1 (bases 1 to 1035)
Gordon,R.D., Dijkmans,J.J., Sprengel,J.J., Yon,J.R., Xu,J., Gosiewska,A. and Dhanaraj,S.N.	AUTHORS	TITLE	Vascular endothelial growth factor-x
PATENT: WO 0037641-A 3 29-JUN-2000;	JOURNAL	JOURNAL	GORDON, ROBERT DOUGLAS (BE) ; DIJKMANS, JOSIENA JOHANNA HUBER (BE) ; JANSSEN PHARMACEUTICA NV (BE) ; SPRENGEL, JORG JURGEN (BE) ; YON, JEFFREY ROLAND (BE) ; XU JEAN (US) ; GOSTEWSKA ANNA (US) ; DHANARAJ, SRIDEVI NAIDU (US)
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VERSION AX028032.1 GI:10188844

KEYWORDS human.

ORGANISM Homo sapiens  
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.  
Goswaria, A. and Bhanaraj, S.N.

REFERENCE 1 (bases 1 to 1035)  
AUTHORS Gordon, R.D., Dijkmans, J.J., Spriengel, J.J., Yon, J.R., Xu, J.,  
Goswaria, A. and Bhanaraj, S.N.

TITLE Vascular endothelial growth factor-x  
JOURNAL Patent: WO 0037641-A 29-JUN-2000;  
GORDON ROBERT (BE) ; DIJKMANS JOSIENA JOHANNA HUBER (BE) ;  
JANSSEN PHARMACEUTICA NV (BE) ; SPRENGEL JORG JURGEN (BE) ; YON  
JEFFREY ROLAND (BE) ; XU JEAN (US) ; GOSIEWSKA ANNA (US) ; DHANARAJ  
SRIDEVI NAIKO (US)

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/db\_xref="taxon:9606"

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ACCESSION AX044518  
VERSION AX044518.1 GI:11343373

KEYWORDS human.

ORGANISM Homo sapiens  
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.

REFERENCE 1 (bases 1 to 1760)  
AUTHORS Gilbert, T., Hart, C.E., Sheppard, P.O. and Gilbertson, D.G.  
TITLE Growth Factor Homolog zvest4  
JOURNAL Patent: WO 0066736-A 32 09-NOV-2000;  
ZymoGenetics, Inc. (US)

FEATURES Location/Qualifiers  
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 REFERENCE 1 (sites)  
 AUTHORS Hamada,T., Ui-Tei,K. and Miyata,Y.  
 TITLE A novel gene derived from developing spinal cords, SCDGF, is a unique member of the PDGF/VEGF family(1)  
 JOURNAL FEBS Lett. 475 (2), 97-102 (2000)  
 MEDLINE 20317014  
 REFERENCE 2 (bases 1 to 1817)  
 AUTHORS Direct Submission  
 TITLE Submitted (25-OCT-1999) to the DDBJ/EMBL/GenBank databases.  
 JOURNAL Tsuyoshi Hamada, Nippon Medical School, Department of Pharmacology;  
 1-1-5, Sendagi, Bunkyo-ku, Tokyo 113-8602, Japan  
 (E-mail:t-hamada@nms.ac.jp, Tel:81-3-3822-2131(ex.5277),  
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SOURCE	house mouse.	VERSION 1	VERSION 1
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REFERENCE	1 (bases 1 to 3571)	ORGANISM Mus musculus	ORGANISM Mus musculus
AUTHORS	Gilbert,T., Hart,C.E., Sheppard,P.O. and Gilbertson,D.G.	LOCUS AF286725	LOCUS AF286725
JOURNAL	Patent: WO 0066736-A 34 09 NOV-2000;	DEFINITION Mus musculus platelet-derived growth factor C (Pdgfc) mRNA, complete cds.	DEFINITION Mus musculus platelet-derived growth factor C (Pdgfc) mRNA, complete cds.
ZymoGenetics, Inc. (US)	Location/Qualifiers	ACCESSION AF286725	ACCESSION AF286725
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		AUTHORS Hamada, T., Ue-Tei, K. and Miyata, Y.			
		TITLE Direct Submission			
		JOURNAL Submitted (25-OCT-1999) Tsuyoshi Hamada, Nippon Medical School, Department of Pharmacology; 1-1-5, Sendagi, Bunkyo-ku, Tokyo 113-8602, Japan (E-mail: t-hamada@ems.ac.jp).			
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spinal cord-derived growth factor; scdgf gene.						
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Eukarya; Metazoa; Chordata; Craniata; Vertebrates; Euteleostomi; Archosauria; Aves; Neognathae; Galliformes; Phasianidae; Phasianinae; Gallus.						
REFERENCE AUTHORS Hamada,T., Ue-Tei,K. and Miyata,Y.						
TITLE A novel gene derived from developing spinal cords, SCDF, is a unique member of the PDGF/VEGF family(1)						
JOURNAL FEBS Lett. 475 (2), 97-102 (2000)						
2031-7014						
REFERENCE AUTHORS Hamada,T., Ue-Tei,K. and Miyata,Y.						
TITLE Direct Submission						
JOURNAL Tsuyoshi Hamada, Nippon Medical School, Department of Pharmacology; 1-1-5, Sendagi, Bunkyo-ku, Tokyo 113-8602, Japan (E-mail:t-hamada@ems.ac.jp, Tel:81-3-3822-2131(ex.5277), Fax:81-3-5814-1684)						
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JOURNAL						
1. (bases 1 to 279)						
AUTHORS Gordon,R.D., Dijkmans,J.J., Sprengel,J.J., Yon,J.R., Gosiewska,A. and Dhanaraj,S.N.						
TITLE Vascular endothelial growth factor-x						
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ARTIFICIAL SEQUENCE.

REFERENCE 1 (bases 1 to 279)

AUTHORS Gordon,R.D., Dijkmans,J.J., Sprengel,J.J., Yon,J.R., Xu,J.,

JOURNAL Gospiewska,A. and Dhanaraj,S.N.

TITLE Vascular endothelial growth factor-x

DEFINITION Patent: WO 0037641-A 29-JUN-2000;

ACCESSION GORDON DOUGLAS (BE) ; DIJKMANS JOSTENA JOHANNA HUBER (BE) ;

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FEATURES SRIDEVI NAIDU (US)

LOCATION/QUALIFIERS Location/Qualifiers

REFERENCE 1 (bases 1 to 279)

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61 heprpproGlycysLeuLeuValLysArgCysGlyGlyAsnCysAlaCys 77  
 ||| ||| :||| :||| :||| :||| :||| :||| :||| :||| :|||  
 489 TCAAGCCCCCTGTGAAATGTCCTCGGTGAGGC.....TGC 529

78 CysLeuIiisAsnCysAsnGluCysGlnCysVal.....ProSerLy 91  
 ||| :||| :||| :||| :||| :||| :||| :||| :||| :|||  
 530 TGC.....AACGAAAGGGTGTGATGTGAAACAAGGACCTCTA 573

91 svalthrLysLysTyrHisGluValleuGlnLeuArgProlsThrGly 108  
 :||| :||| :||| :||| :||| :||| :||| :||| :||| :|||  
 574 CATCTCAAACAGCTCTTGAGATCATGTC.....CCTCTGACATCAG 617

108 alaArgGlyLeuHisLysSerLeuthrAspValaleuGluHisGlu 124  
 ||| :||| :||| :||| :||| :||| :||| :||| :||| :|||  
 618 TG.....CCCGAGTTAGTGCCTGTAAATTGCCAACCATACG 655

125 GluCysAspCysValCysArgGly 132  
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seq\_name: /cgn2\_6/podata/1/ina/6B\_COMB.seq:US-08-915-795-6

seq\_documentation\_block:  
 ; Sequence 6, Application US/08915795  
 ; Patent No. 6235713

; GENERAL INFORMATION:  
 ; APPLICANT: MARC G. ACHEN  
 ; APPLICANT: Andrew F. WILKS  
 ; APPLICANT: Steven A. STACKER  
 ; APPLICANT: Kari ALITALO  
 ; TITLE OF INVENTION: GROWTH FACTOR  
 ; NUMBER OF SEQUENCES: 11  
 ; CORRESPONDENCE ADDRESS:  
 ; ADDRESS: Evanson, McKeown, Edwards & Lenahan P.L.L.C.  
 ; STREET: 1200 G Street, NW, Suite 700  
 ; CITY: Washington  
 ; STATE: DC  
 ; COUNTRY: United States of America  
 ; ZIP: 20005

; COMPUTER READABLE FORM:  
 ; MEDIUM TYPE: Floppy disk  
 ; COMPUTER: IBM PC Compatible  
 ; OPERATING SYSTEM: PC-DOS/MS-DOS  
 ; SOFTWARE: Patentin Release #1.0, Version #1.25

CURRENT APPLICATION DATA:  
 ; APPLICATION NUMBER: US/08/915,795  
 ; FILING DATE:  
 ; CLASSIFICATION: 536  
 ; ATTORNEY/AGENT INFORMATION:  
 ; NAME: EVANS, JOSEPH D.  
 ; REGISTRATION NUMBER: 26,269  
 ; TELECOMMUNICATION INFORMATION:  
 ; TELEPHONE: (202) 628-8800  
 ; TELEX: N/A  
 ; INFORMATION FOR SEQ ID NO: 6:  
 ; SEQUENCE CHARACTERISTICS:  
 ; LENGTH: 1325 base pairs  
 ; TYPE: nucleic acid  
 ; STRANDEDNESS: single  
 ; TOPOLOGY: linear  
 ; MOLECULE TYPE: cDNA  
 ; HYPOTHETICAL: NO  
 ; ORIGINAL SOURCE: Mouse Lung

US-08-915-795-6

alignment\_scores:  
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 ; Ratio: 1.927 Gaps: 6  
 ; Percent Similarity: 57.407 Percent Identity: 33.333

seq\_name: /cgn2\_6/podata/1/ina/6B\_COMB.seq:US-08-915-795-4

seq\_documentation\_block:  
 ; Sequence 4, Application US/08915795  
 ; Patent No. 6235713

; GENERAL INFORMATION:  
 ; APPLICANT: Marc G. ACHEN  
 ; APPLICANT: Andrew F. WILKS  
 ; APPLICANT: Steven A. STACKER  
 ; APPLICANT: Kari ALITALO  
 ; TITLE OF INVENTION: GROWTH FACTOR  
 ; NUMBER OF SEQUENCES: 11  
 ; CORRESPONDENCE ADDRESS:  
 ; ADDRESSEE: Evanson, McKeown, Edwards & Lenahan P.L.L.C.  
 ; STREET: 1200 G Street, NW, Suite 700  
 ; CITY: Washington  
 ; STATE: DC  
 ; COUNTY: United States of America  
 ; ZIP: 20005

; COMPUTER READEABLE FORM:  
 ; MEDIUM TYPE: Floppy disk  
 ; COMPUTER: IBM PC Compatible  
 ; OPERATING SYSTEM: PC-DOS/MS-DOS

CURRENT APPLICATION DATA:  
 ; SOFTWARE: Patentin Release #1.0, Version #1.25  
 ; APPLICATION NUMBER: US/08/915,795  
 ; FILING DATE:  
 ; CLASSIFICATION: 536  
 ; ATTORNEY/AGENT INFORMATION:  
 ; NAME: EVANS, JOSEPH D.  
 ; REGISTRATION NUMBER: 26,269  
 ; TELECOMMUNICATION INFORMATION:  
 ; TELEPHONE: (202) 628-8844  
 ; TELEX: N/A  
 ; INFORMATION FOR SEQ ID NO: 4:  
 ; SEQUENCE CHARACTERISTICS:  
 ; LENGTH: 2029 base Pairs

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; ADDRESSEE: Evanson, McKeown, Edwards & Lenahan P.L.L.C.
; STREET: 1200 G Street, NW, Suite 700
; CITY: Washington
; STATE: DC
; COUNTRY: United States of America
; ZIP: 20005
; COMPUTER READABLE FORM:
; COMPUTER: IBM PC compatible
; MEDIUM TYPE: Floppy disk
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.25
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/915,795
; FILING DATE:
; CLASSIFICATION: 536
; ATTORNEY/AGENT INFORMATION:
; NAME: EVANS, Joseph D.
; REGISTRATION NUMBER: 25,269
; REFERENCE/DOCKET NUMBER: 1064/42983
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (202) 628-8800
; TELEFAX: (202) 628-8844
; INFORMATION FOR SEQ ID NO: 1:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 2846 base pairs
; TYPE: nucleic acid
; STRANDEDNESS: single
; TOPOLOGY: linear
; MOLECULE TYPE: cDNA
; HYPOTHETICAL: NO
; ORIGINAL SOURCE:
; TISSUE TYPE: Human Lung
US-08-915-795-4

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Length: 152
Gaps: 8
Percent Identity: 28.289

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Length: 152
Gaps: 8
Percent Identity: 28.289

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14 .....LeuGlyLysAlaPheValP 20
608 ATGCGGGTGGAGCTCAAAGTTTACCAAGTAGCTGGACTCTGCCTAGCAT 657
20 hegyArgLyssSerArg.....ValValAspLeu 29
658 CCATCGGICCACTAGGTTGGCCAACTTCTATGACATTTGAAACACTA 707
30 AsnLeuLeuThrGluGluValArgLeuTySerTySthProArgAsnPh 46
708 AAAGTTATAGATGAAATGGCAAAAAGAACCTAGCAGGCCCTAGAAAC 757
46 eSerValSerIleArgGluLeu...LysArgThrAspThrIlePheT 62
758 GTGGGTGGAGGTGCCAGTGAGCTGGGGAGAGTACCAAGCACATCTCA 807
62 rProGlyCysLeuLeuValLysArgCysGlyGlyAsnCysAlaCysCys 78
808 ACCCCCCCTGTGCAACGTGTTGGATGTTGGC.....TGTTGC 848
79 LeuHisAsnCysAsnGluCys.. GluCysValProSerLysValThrLys 94
849 AANGAAAGAGGAGGCCCTATCTGTATAAACACCGAACCTGTACATTCCA 898
94 SLYSTYRTHISGLUVALLeuArgProLysThrGlyValArgGlyL 111
899 ACAGCTCTTGAGATATCAGT.....CCTTGACATCAGTA..... 935
111 euHisLysSerLeuThrAspValAlaLeuGluHisHisGluGlyCysASP 127
936 ....CCGAAATTAGTGCCTGTAAGTGGCAATCATACAGGTGTAAG 980
128 CysVal 129
981 TGCTTG 986

seq_name: /cgn2_6/podata/1/ina/6B_COMB.seq:US-08-915-795-1

seq_documentation_block:
Sequence 1, Application US/08915795
GENERAL INFORMATION:
Patent No. 6235713
APPLICANT: Marc G. ACHEN
APPLICANT: Andrew F. WILKS
APPLICANT: Steven A. STACKER
APPLICANT: Kari ALITALO
TITLE OF INVENTION: GROWTH FACTOR
NUMBER OF SEQUENCES: 11
CORRESPONDENCE ADDRESS:


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Date: Aug 18, 2001 4:13 AM

About: Results were produced by the GenCore software, version 4.5,
Copyright (c) 1993-2000 Compugen Ltd.

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-Q/cgn2.1/USPTO-spool/us09457066/runat_17082001_083146_25251/app_query.fas
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-GAFEXT=4_000 -MINMATCH=0.100 -LOCPLC=0_000 -LOCPEXT=0_000
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-FGAPOP=6_000 -FGAPEXT=7_000 -YGAPOP=10_000 -YGAPEXT=0_500
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-TRANS=human-0.cdt -LIST=45 -DOCAIGN=200 -THR_SCORE=pct
-THR_MAX=100_-THR_MIN=0_-ALIGN=15_-MODE=LOCAL_-OUTFMT=pfs
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Search information block:
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Database: N_Geneseq_0601.*_
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Database length: 313950809
Search time (sec): 113.960000

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 /SIDS8/gcadata/geneseq/geneseq/NA2000.DAT:AAA97812 + 351.00 708.22 1.8e-31 232

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 seq\_documentation\_block:  
 ID AAA51540 standard; cDNA; 1095 BP.  
 XX  
 AC AAA51540;  
 XX DT 26-SEP-2000 (first entry)  
 XX DE MBP-ZVEGF3 fusion protein coding sequence.  
 XX KW Vascular endothelial growth factor; homologue; zvegf3; CUB domain;  
 XX KW Cysteine knot; platelet-derived growth factor; PDGF; neuropilin;  
 XX KW chromosome 4q28.3; cytostatic; anti-psoriatic; anti-inflammatory;  
 XX KW anti-diabetic; ophthalmological; anti-rheumatic; anti-arthritis;  
 XX KW vulnerability; maltose binding protein; MBP; ss.  
 XX OS Chimeric - Homo sapiens.  
 OS Synthetic.  
 XX PN WO200034474-A2.  
 XX PD 15-JUN-2000.  
 XX PF 07-DEC-1999; 99WO-US28968.  
 XX PR 07-DEC-1998; 98US-0207120.  
 PR 06-JUL-1999; 99US-0142576.  
 PR 21-OCT-1999; 99US-0161553.  
 PR 12-NOV-1999; 99US-0165255.  
 XX PA (ZYMO ) ZYMOGENETICS INC.  
 XX PI Gao Z, Hart CE, Paddington CS, Sheppard PO, Shoemaker KE,  
 PI Gilbertson DG, West JW;  
 XX DR: 2000-423420/36.  
 XX PT Novel zvegf3 polypeptides and nucleotides encoding them useful for  
 PT stimulating growth of smooth muscle cells and fibroblasts comprising an  
 PT epitope bearing portion of a specific amino acid sequence  
 XX PS Example 28: Page 172-173; 173pp; English.  
 XX CC This DNA encodes human ZVEGF3 (a novel vascular endothelial growth  
 CC factor homologue) fused N-terminally to maltose binding protein (MBP).  
 CC Polypeptides comprising an epitope-bearing portion human or murine  
 CC ZVEGF3 are claimed. The growth factors comprise a growth factor domain  
 CC and a CUB domain (generic sequence motifs are shown in AAY9859 and  
 CC AAY98860). The growth factor domain is characterized by an arrangement of  
 CC cysteine residues and beta-strands that is characteristic of the  
 CC "cysteine knot" structure of the platelet-derived growth factor (PDGF)  
 CC family. The CUB domain shows homology to CUB domains in neuropilins,  
 CC human bone morphogenetic protein-1, porcine seminal plasma protein,  
 CC bovine acidic seminal fluid protein and Xenopus laevis toll-like  
 CC protein. Structural analysis and homology predict that ZVEGF3  
 CC polypeptides complex with a second polypeptide to form multimeric  
 CC proteins. The human zvegf3 gene has been mapped to chromosome 4q28.3.  
 CC ZVEGF3 is useful for stimulating the growth of fibroblasts or smooth  
 CC muscles cells, for activating cell surface PDGF-alpha receptor and for  
 CC inhibiting PDGR-alpha receptor mediated cellular processes. ZVEGF3 is  
 CC useful for regulating (post-development) organ growth, regeneration and  
 CC maintenance, as well as tissue maintenance and repair processes. ZVEGF3  
 CC antagonists are useful for treating cancer, rheumatoid arthritis,  
 CC diabetic retinopathy, ischemic limb disease, peripheral vascular disease,  
 CC myocardial infarction, vascular intimal hyperplasia, atherosclerosis, wound  
 CC healing, chronic liver disease and haemangioma formation. ZVEGF3  
 CC can also

CC be used to modulate neurite growth and development of the nervous system,  
CC and for treating neurodegenerative diseases.

XX Sequence 1095 BP; 320 A; 227 C; 267 G; 281 T; 0 other;

alignment\_scores:

Quality: 754.00 Length: 136  
Ratio: 5.544 Gaps: 0  
Percent Similarity: 100.000 Percent Identity: 100.000

alignment\_block:  
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1 LeuAspLeuGluAspLeuPheLysArgProThrTrpGlnLeuLeuGlyLysAl 17

667 TTGGACTTAAAGAGCTATATAAGGCCAACTTCTGGCAAGGC 716

17 aPheValPheGlyArgLysSerArgValValAspLeuAspLeuThrG 34

717 TTRGGTTTGGAGAAAATCCAGGTGGAACTGAAACCTTCAACAG 765

34 IuGluValArgLeuTyrsSerCysThrProArgAsnPheserValserIle 50

767 AGGGGTAGATPATACAGTGCAACCTGTACTCTCATGTCATA 816

51 ArgGluGluleuIysArgThrAspThrIlePheTrpProGlyCysLeuIe 67

817 AGGGAGAACTTAAGAGAACCGATAACCAATTCTGGCCAGGTGTCCTCC 866

67 uValLysArgCysGlyGlyAsnCysAlaCysCysLeuHsAsnCysAsnG 84

867 GGTTAAACGCTGTTGGAAACITGCTGCTCCACAATGCAATG 916

84 IuCysGlnCysValProserLysValThrLysIsthrISGluValLeu 100

917 AAATCTCAATGTGCCAACAAAGTTACTAAANATAACCAGAGTCCTT 966

101 GluLeuArgProLysThrIysValArgGlyLeuHsLysSerIleThrAs 117

967 CAGTGAGCCAAGAACCGGTGTTAGGGATTGCAAAATCACIACCGA 1016

117 pValAlaLeuGluIshisIuGluGlyCysAspCysValCysArgGlySerT 134

1017 CGGGCCCTGGAGGACCATGAGSAGTGTGACTGTGTGCAAGGGAGCA 1066

134 hrGlyGly 136

1067 CAGGGAGGA 1074

seq\_name: /SIDS8/gcgdata/geneseq/geneseq/NA2000.DAT:AAA71985

seq\_documentation\_block:

ID AAA71985 standard; DNA; 1096 BP.

XX AAA71985;

XX 19-JAN-2001 (first entry)

XX Human VEGF-X DNA for expression in E. coli systems.

XX VEGF-X; vascular endothelial growth factor; human; vulnerability; cytostatic;

XX antirheumatic; antiarthritic; antipsoriatic; antidiabetic; treatment; angiogenesis regulator; vascularization regulator; cancer; psoriasis; rheumatoid arthritis; diabetic retinopathy; blood vessel; organ repair; tissue regeneration; tissue repair; wound; dermal ulcer; pressure sore; venous sore; diabetic ulcer; burns; skin graft growth; ds.

XX Homo sapiens.

XX Key Location/Qualifiers

3..1070  
/\*tag= a  
/product= "VEGF-X"

CDS

WO200037641-A2.

XX XX

XX PD

XX 29-JUN-2000.

XX XX

XX PF

XX 21-DEC-1999;

XX PR

XX 22-DEC-1998;

XX PR

XX 18-MAR-1999;

XX PR

XX 08-NOV-1999;

XX PA (JANCS ) JANSSEN PHARM NV.

XX XX

XX PI

XX Dhanaraj SN, Xu J;

XX XX

XX DR

XX WPI; 2000-442669/38.

XX DR

XX P-PSDB; AAB10641.

XX XX

XX PT New vascular endothelial growth factor protein, useful for treating or preventing diseases associated with inappropriate angiogenesis activity such as cancer, rheumatoid arthritis, psoriasis and wounds -

XX XX

XX PS Disclosure; Fig 21; 127pp; English.

XX XX

CC This invention describes a novel vascular endothelial growth factor-X (VEGF-X) protein (1a) and its encoding polynucleotide (11a) which has CC vulnery, cytostatic, antirheumatic, antiarthritic, antipsoriatic and CC antidiabetic activity and acts as an angiogenesis and vascularization CC regulator. An antisense molecule of the invention is useful for treating CC or preventing cancer, rheumatoid arthritis, psoriasis and diabetic CC retinopathy by inhibiting angiogenesis or inappropriate CC vascularization including formation and proliferation of new blood CC vessels, growth and development of tissues, tissue regeneration and organ CC and tissue repair in a subject. The products of the invention are useful CC for preparing medicaments for treating wounds such as dermal ulcers, CC pressure sores, venous sores, diabetic ulcers and burns and to promote CC skin graft growth, tissue repair, proliferation of new blood vessels, CC tissue regeneration and organ repair by promoting angiogenic activity or CC vascularization. This sequence encodes a human VEGF-X protein which can CC be expressed in E. coli systems and which is described in the method of CC the invention.

XX XX

Sequence 1096 BP; 337 A; 225 C; 253 G; 281 T; 0 other;

alignment\_scores:

Quality: 754.00

Length: 136

Ratio: 5.544

Gaps: 0

Percent Identity: 100.000

alignment\_block: US-09-457-066-2\_COPY\_210\_345 x AAA71985

Align seg 1/1 to: AAA71985 from: 1 to: 1096

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642 TTGGACTTGAAGATCTATAGGCCAACTTCTGCAACTTCTGGCAAGGC 691

17 abhevalPheGlyArgIlysSerArgValValAspLeuAsnLeuLeuTrG 34  
692 TTGGTGTGTTGGAGAAATCCAGAGTGGATCTGAACTCTAACAGT 741

34 LuGluValArgLeutyrSerCysThrProArgAsnPheserValSerIle 50  
742 AGGAGGTAAAGATATAACGCTGACACCTCTGTAACCTCTCAGTGTCCATA 791

51 ArgGluGluLeuIysArgGhrasprhrIlePheTrpProGlycysLeuIe 67

792 AGGAGAACTAAGAGAACGGATACCATTCTGCCAACGTTGTCTCCCT 841  
 67 uVallysArgCysGlyGlyAsnCysAlacysCysLeuHisAsnCysAsnG 84  
 CC antidiabetic activity, and acts as an angiogenesis and vascularization  
 CC regulator. An antisense molecule of the invention is useful for treating  
 CC or preventing cancer, rheumatoid arthritis, psoriasis and diabetic  
 CC retinopathy by inhibiting angiogenic activity or inappropriate  
 CC vascularization including formation and proliferation of new blood  
 CC vessels, growth and development of tissues, tissue regeneration and organ  
 CC and tissue repair in a subject. The products of the invention are useful  
 CC for preparing medicaments for treating wounds such as dermal ulcers,  
 CC pressure sores, venous sores, diabetic ulcers and burns and to promote  
 CC skin graft growth, tissue repair, proliferation of new blood vessels,  
 CC tissue regeneration and organ repair by promoting angiogenic activity or  
 CC vascularization. This sequence encodes a human VEGF-X protein which can  
 CC be expressed in mammalian systems and which is described in the method of  
 CC the invention.

XX Sequence 1134 BP; 324 A; 247 C; 269 G; 294 T; 0 other;

SQ

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alignment\_scores:  
 Quality: 754.00 Length: 136  
 Ratio: 5.544 Gaps: 0  
 Percent Similarity: 100.000 Percent Identity: 100.000

alignment\_block:  
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 637 TTGGACTTAAAGATCTPATATGGCCAACTTGCCAACTCTTGCAAGGC 686

alignment\_scores:  
 Quality: 754.00 Length: 136  
 Ratio: 5.544 Gaps: 0  
 Percent Similarity: 100.000 Percent Identity: 100.000

alignment\_block:  
 US-09-457-066-2\_COPY\_210\_345 x AAA71983 ..

Align seg 1/1 to: AAA71983 from: 1 to: 1134

1 LeuAspLeuGluAspLeutyrArgProThrTrpGlnLeuLeuGlyLysAl 17  
 ||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| |||||  
 687 TTGGTTGTTGAGAAATACTCCAGAGTGTGGATCTAACAG 736

VEGF-X, vascular endothelial growth factor; human; vulnerability; cytostatic;  
 KW antidiabetic; antiarthritic; angiogenesis; treatment;  
 KW angiogenesis regulator; vascularization regulator; cancer; psoriasis;  
 KW rheumatoid arthritis; diabetic retinopathy; blood vessel; organ repair;  
 KW tissue regeneration; tissue repair; wound; dermal ulcer; pressure sore;  
 KW venous sore; diabetic ulcer; burns; skin graft growth; ds.

OS Homo sapiens .

XX Key FT Location/Qualifiers  
 CDS 10..1134  
 FT /\*tag= a  
 FT /product= "VEGF-X"  
 XX WO2000037641-A2.  
 XX 29-JUN-2000.  
 XX 21-DEC-1999; 9WO-US30503.  
 XX 22-DEC-1998; 98GB-0028377.  
 PR 18-MAR-1999; 99US-0124967.  
 PR 08-NOV-1999; 99US-0164131.  
 XX PA (JANSEN PHARM NV.  
 XX Gordon RD, Sprengel JJ, Yon JR, Dijkmans JJJH, Gosiiewska A;  
 PI Dhanaraj SN, Xu J;  
 XX DR WPI: 2000-442669/38.  
 DR P-PSDB; AAB10639.  
 XX New vascular endothelial growth factor protein, useful for treating or  
 PT preventing diseases associated with inappropriate angiogenesis activity  
 PT such as cancer, rheumatoid arthritis, psoriasis and wounds -

XX Disclosure; Fig 19; 127pp; English.

CC This invention describes a novel vascular endothelial growth factor-X  
 CC (VEGF-X) protein (Ia) and its encoding polynucleotide (IIa) which has

seq\_name: /SIDS8/gcadata/geneseq/geneseq/NA2000.DAT:AAA71984  
 seq\_documentation\_block:  
 ID AAA71984 standard; DNA; 1134 BP.  
 XX  
 AC  
 XX  
 DT 19-JAN-2001 (first entry)

XX Human VEGF-X DNA for expression in Baculovirus/insect cell systems .

XX DE VEGF-X; vascular endothelial growth factor; human; vulnerable; cytostatic;

XX KW antirheumatic; antiarthritic; antipsoriatic; antidiabetic; treatment;

XX KW angiogenesis regulator; vascularization regulator; cancer; psoriasis;

XX KW rheumatoid arthritis; diabetic retinopathy; blood vessel; organ repair;

XX KW tissue regeneration; tissue repair; wound; dermal ulcer; pressure sore;

XX KW venous sore; diabetic ulcer; burns; skin graft growth; ds.

OS Homo sapiens .

XX Key Location/Qualifiers

FT CDS 63 .. 1127

FT FT /\*tag= a /product= "VEGF-X"

FT PN WO200037641-A2 .

PD 29-JUN-2000 .

XX PF 21 -DEC-1999; 99WO-US30503 .

XX PR 22 -DEC-1998; 98GB-0028377 .

PR 18 -MAR-1999; 99US-0124167 .

PR 08 -NOV-1999; 99US-0164131 .

XX PA (JANCS ) JANSEN PHARM NV .

PI Gordon RD, Sprengel JJ, Yon JR, Dijkmans JJJ, Gosiewska A;

XX Dhanaraj SN, Xu J;

WPI: 2000-442669/38.

DR P-PSDB; AAB10640 .

XX PT New vascular endothelial growth factor protein, useful for treating or preventing diseases associated with inappropriate angiogenesis activity such as cancer, rheumatoid arthritis, psoriasis and wounds -

PT Disclosure: Fig 20; 127pp; English.

XX This invention describes a novel vascular endothelial growth factor-X (VEGF-X) protein (ta) and its encoding polynucleotide (tta) which has pulmonary, cytostatic, antirheumatic, antiarthritic, antipsoriatic and antidiabetic activity and acts as an angiogenesis and vascularization regulator. An antisense molecule of the invention is useful for treating or preventing cancer, rheumatoid arthritis, psoriasis and diabetic retinopathy by inhibiting angiogenic activity or inappropriate vascularization including formation and proliferation of new blood vessels, growth and development of tissues, tissue regeneration and organ and tissue repair in subject. The products of the invention are useful for preparing medicaments for treating wounds such as dermal ulcers, pressure sores, venous sores, diabetic ulcers and burns and to promote skin graft growth, tissue repair, proliferation of new blood vessels, tissue regeneration and organ repair by promoting angiogenic activity or vascularization. This sequence encodes a human VEGF-X protein which can be expressed in Baculovirus/insect cell systems and which is described in the method of the invention.

XX Sequence 1134 BP; 339 A; 225 C; 254 G; 316 T; 0 other;

SQ alignment\_scores:

Quality: 754.00	Length: 136
Ratio: 5.544	Gaps: 0
Percent Similarity: 100.000	Percent Identity: 100.000

alignment\_block:

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PT New vascular endothelial growth factor protein, useful for treating or preventing diseases associated with inappropriate angiogenesis activity such as cancer, rheumatoid arthritis, psoriasis and wounds -  
 PT XX  
 PS Claim 4; Fig 9; 127pp; English.  
 XX  
 This invention describes a novel vascular endothelial growth factor-X (VEGF-X) protein (Ta) and its encoding polynucleotide (IIA) which has vulnerability, cytostatic, antiarthritic, antipsoriatic, antivascular and antidiabetic activity and acts as an angiogenesis and vascularization regulator. An antisense molecule of the invention is useful for treating or preventing cancer, rheumatoid arthritis, psoriasis and diabetic retinopathy by inhibiting angiogenic activity or inappropriate vascularization including formation and proliferation of new blood vessels, growth and development of tissues, tissue regeneration and organ vessels repair in a subject. The products of the invention are useful for preparing medicaments for treating wounds such as dermal ulcers, pressure sores, venous sores, diabetic ulcers and burns and to promote skin graft growth, tissue repair, proliferation of new blood vessels, tissue regeneration and organ repair by promoting angiogenic activity or vascularization. This sequence encodes the human VEGF-X protein isolated from clones 4 and 7 described in the method of the invention.

XX Sequence 1473 BP; 406 A; 321 C; 361 G; 385 T; 0 other;

alignment\_scores:  
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 Ratio: 5.544 Gaps: 0  
 Percent Similarity: 100.000 Identity: 100.000

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 934 TRTGACTTAAAGATCTAGAGATCAGTCCATATAAGGCCAACTTGGCAAGGC 933  
 17 aphevalPheGlyArgLysserArgvalValAspIeuAsnLeuLeuThrG 34  
 34 IugluvalArgLeutyrSerCysthrSerProArgAsnpheSerValSerIle 50  
 984 AGGAGGTAAAGATTATACAGTGCAACCCUTCGTAACTTCAGTGTCATA 1033  
 51 ArgGluGluLeuLysArgThrAspThrLeuPheTrpProDlycysLeuLe 67  
 1034 AGGAAAGAACTAAAGAGAACGATACCATTTCGCCCCAGTTGTCCTCTCCT 1083  
 67 uvalLysArg9CysGLYGLYAsnCysAlaCysCysLeuHisAsnCysAsnG 84  
 1084 GGTTAAACCGCTGTGTGGAACTGRCCTGTTGTCACATTCAATG 1133  
 84 lucCysGlnCysvaProSerLysValthrLysLystyrHisGluValLeu 100  
 1134 AATGTCAAATGTCGCCAAAGTAAGTAAATACCAAGAGGTCCCTT 1183  
 101 GluLeuArgProLyssrGlyLysLysLysSerLeuThrAs 117  
 1184 CAGTGAGACCAAAGACCGGTGTCAGGGATRGCAAAATCACCTACCGA 1233  
 117 PvalAlaLeuGluHisHisGluCysAspCysValCysArgGlySerT 134  
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 134 hrglyGly 136  
 1284 CAGGAGGA 1291

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seq\_documentation\_block:  
 ID AAC81582 standard; DNA; 1760 BP  
 XX  
 AC AAC81582;  
 XX  
 DT 09-MAR-2001 (first entry)  
 XX Human zvegf3 DNA, SEQ ID NO:32.  
 DE  
 KW Human; zvegf4 fusion; growth factor homologue; VEGF/PDGF family;  
 KW CTB domain; PDGF-like activity; mitogenic; osteogenic;  
 KW neovascularisation; tissue repair; proliferation; differentiation;  
 KW liver damage; neuroregenerative; Alzheimer's disease; multiple sclerosis;  
 KW periodontal disease; bone fracture; wound healing; vulnerability; ischaemia;  
 KW immunomodulation; hepatic; ds.  
 XX  
 OS Homo sapiens.  
 PN WC200066736-A1.  
 XX  
 PD 09-NOV-2000  
 XX  
 PF 03-MAY-2000; 2000WO-US40047.  
 XX  
 PR 03-MAY-1999; 99US-0104216.  
 PR 10-NOV-1999; 99US-0164463.  
 PR 04-FEB-2000; 2000US-0180169.  
 XX  
 PA (ZYMO ) ZYMOGENETICS INC.  
 XX  
 PI Gilbert T, Hart CE, Sheppard PO, Gilbertson DG;  
 XX  
 DR WPI; 2000-687541/67.  
 DR P-PSDB; AAB8657.  
 XX  
 PT Growth factor homologs and the nucleic acids that encode them, useful  
 PT e.g., for treating liver damage, ischemia, multiple sclerosis and  
 PT Alzheimer's disease -  
 XX  
 Claim 25; Page 123-125; 143pp; English.  
 PS  
 XX  
 CC The invention relates to the human growth factor homologue zvegf4  
 CC (AAB8653), and nucleic acids encoding it (AAC81555). Zvegf4 is a member  
 CC of the PDGF (platelet-derived growth factor)/VEGF (vascular endothelial  
 CC growth factor) family. Zvegf4 has a growth factor domain (AAB8654)  
 CC characterised by a ProG cystine knot structure, and a CUB domain  
 CC (AAB8655) which has a beta barrel structure. Zvegf4 has PDGF-like  
 CC activity, having mitogenic activity on fibroblasts, vascular smooth  
 CC muscle cells and pericytes, and has also been shown to stimulate bone  
 CC growth. The invention also relates to fusion proteins comprising human  
 CC zvegf4 or fragments thereof, particularly human zvegf4/human zvegf3  
 CC fusions; expression constructs and host cells comprising human zvegf4  
 CC nucleic acids; the recombinant expression of human zvegf4; an antibody  
 CC which binds to human zvegf4 or a fragment thereof; a method of activating  
 CC a cell surface PDGF receptor using a zvegf4-derived polypeptide; a  
 CC method of modulating the proliferation, differentiation, migration or  
 CC metabolism of bone cells, comprising exposing bone cells to  
 CC zvegf4-derived polypeptides; and a method of detecting a genetic  
 CC abnormality in the zvegf4 gene of a patient. Zvegf4 proteins and derived  
 CC fragments may be used to stimulate tissue development or repair, or  
 CC cellular differentiation or proliferation. They are particularly used for  
 CC the treatment or repair of liver damage, and may also be used to  
 CC modulate neurite growth (e.g., in the treatment of Alzheimer's disease or  
 CC multiple sclerosis). Due to their osteogenic activity, they may be used  
 CC in the treatment of periodontal disease and fractures. They may also be  
 CC used to enhance expansion and mobilisation of haematopoietic stem cells  
 CC and endothelial precursor stem cells, which may be useful in the  
 CC treatment of ischaemia, in wound healing, and in the modulation of the  
 CC immune system. The present sequence represents DNA encoding human  
 CC zvegf3.  
 XX  
 SQ Sequence 1760 BP; 494 A; 373 C; 411 G; 482 T; 0 other;



34 IugluvalargLeutyrSerCysThrProArgAsnPheserValserile 50  
 881 AGGAGTAAAGATATAACAGTGACACCTCGTAACCTCACTGTCCATA 930  
 51 ArgGluGluleuIysArgThrAspThrIleHepHrrProGlyCysteIle 67  
 931 AGGGAGAACTAAAGAAGAACCGATAACATTTCGCCCCAGNTGTCRCCCT 980  
 67 uvallysArgcysGlyGlyAsnCysAlaCysCysLeuHisAsnCysAsnG 84  
 981 GGTAAAACGCTGTGGTGGGACTGNCCTGTCAGTGTCAAAATTGCAATG 1.030  
 84 lucysGlnCysvalProSerIysValThrLysLystyRHisGluValLeu 1.00  
 1031 AATGTCAAATGTTGCCCAGAAAGTACTAAAAATACCACAGGGCCTT 1.080  
 101 GlntleuArgProLysthrglyVaIargGlyLeuHisIysSerLeuthrAs 1.17  
 1081 CAGTGTGAGACCAAAGAACCGGTGTCAAGGGATTGCAAAATCTACCGA 1.130  
 117 pvalAlaLeuGluHisGluGlyLysAspCysValCysArgGlySert 1.34  
 1131 CGTGGCCCTGGAGCACCATGAGTAGTGTGACTGTGTGCAAGGGGAGCA 1.180  
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 seq\_documentation\_block:  
 AAA12523 standard; CDNA; 2108 BP.  
 AAA12523;

25-JUL-2000 (first entry)

cDNA encoding platelet-derived growth factor C (PDGF-C).  
 Platelet-derived growth factor C; PDGF-C; cell proliferation; growth factor; heparin; connective tissue; wound healing; VEGF-F;  
 fibroblast mitogenesis; PDGF alpha receptor activation; tumour growth; choriocarcinoma; Wilms tumour; megakaryoblastic leukaemia; lung carcinoma; erythroleukemia; tissue remodelling; ss

Homo sapiens.

Key  
 CDS

Location/Qualifiers  
 37...1073  
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 /product= "platelet-derived growth factor C"  
 WO200018212-A2.

06 APR-2000.  
 30-SEP-1999; 99WO-US22668.

30-SEP-1998; 98US-0102461.  
 12-NOV-1998; 98US-0108109.  
 03-DEC-1998; 98US-0110749.  
 18-DEC-1998; 98US-0113002.  
 21-MAY-1999; 99US-0135426.  
 15-JUL-1999; 99US-0144022.

(LUDW - LUDWIG INST CANCER RES.  
 (YTHE - UNIV HELSINKI LICENSING LTD.

Eriksson U, Aase K, Lee X, Ponten A, Utela M, Alitalo K,  
 Oestman A, Heldin C,

PWT: 2000-292954/25.

PT Novel DNA encoding PDGF-C useful to stimulate or enhance proliferation  
 PT differentiaton, growth and motility of cells expressing the PDGF-C  
 PT receptor  
 XX  
 PS Claim 9; Fig 1; 135pp; English.  
 XX  
 CC The present sequence encodes human platelet-derived growth factor C (PDGF-C) (formerly designated VEGF-F). PDGF-C polypeptides have the ability to stimulate and enhance proliferation or differentiation, and/or growth or motility of cells expressing a PDGF-C receptor.  
 CC PDGF-C polypeptides can be used in pharmaceuticals for promoting cell proliferation, preferably in combination with one other growth factor and heparin. Pharmaceuticals comprising PDGF-C polypeptides can also be used for stimulating connective tissue or wound healing. The PDGF-C polypeptide can be enzymatically processed to generate the active truncated form of PDGF-C and used to regulate the receptor-binding specificity of PDGF-C. PDGF-C can also be used to promote fibroblast mitogenesis in a mammal and to induce PDGF alpha receptor activation. PDGF-C antagonists can be used to inhibit tumour growth of a tumour expressing PDGF-C in a mammal. Specific types of human tumours, e.g. choriocarcinoma, Wilms tumour, megakaryoblastic leukaemia, lung carcinoma and erythroleukemia, can be identified by testing for expression of PDGF-C. PDGF-C antagonists can also be used to inhibit tissue remodelling during invasion of tumour cells into a normal population of cells. Antagonists can also be used to treat fibrotic conditions, especially found in the lung, kidney or liver.  
 XX  
 SQ Sequence 2108 BP; 623 A; 400 C; 451 G; 629 T; 5 other;

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 664 TTGGACTTAGAGATCTATAAGGCCAACTCTGGCAACTTCGCAAGGGC 713  
 17: apheValPheGlyArgIysSerArgValValAspIeuaasnLeuLeuThrG 34  
 714 TTTTGTTTGGAGAAATCCAGTGGGATCTGACCTTCIACAG 763  
 34 luGluValIargLeutyrSerCysThrProArgAsnPheserValSerIle 50  
 764 AGGAGTAAGATTACAGTCACACTGTCAGTCAGTGTGTCATA 813

51 ArgGluGluLeuLysarg9ThrAspThrIleTrpProGlyCysLeuLe 67  
 814 AGGGAAAGAACTAAAGGAAACGGATAACCATTTCTGSCCAGGTGTCCT 863  
 67 uvallysArgCysGlyGlyAsnCysAlaCysCysLeuHisasnCysAsnG 84  
 864 GTTAAACGCTGGTGGGACTGTCCTGTCAGTCACATTGATG 913  
 84 luCysGlnCysValProSerIysValThrLysLystyRHisGluValLeu 100  
 914 AATGTCATACTGTCCCAAGCAAAGTACTAAAAATAACCACGAGGTCCT 963  
 101 GluLeuIargProLysThrGlyIvalArgGlyLeuHisIysSerLeuThrAs 117  
 964 CAGTGGACCAAGCCTGGTGTAGTGGAGTGTGAGTCAGGGATGCAAAATACTACCGA 1013  
 117 PVALA LeuGluIHisGluGluCysASPcysValCysArgGlySerI 134  
 1063 CGTGGGCCTGGAGCACTATGAGGAGTGTGACTGTGTTGAGGAGTCAGGGAGCA 1063



PD 29-JUN-2000.  
 XX  
 PF 99WO-US30503.  
 PR 21-DEC-1999;  
 98GB-0028377.  
 PR 22-DEC-1998;  
 99US-0124967.  
 PR 18-MAR-1999;  
 99US-0164131.  
 XX  
 PA (JANCS ) JANSSEN PHARM NV.  
 PI Gordon RD, Sprengel JJ, Yon JR, Dijkmans JJH, Gosiewska A;  
 PI Dhanaraj SN, Xu J;  
 XX  
 WPI; 2000-442669/38.  
 DR P-PSDB; AAB10644.  
 XX  
 PT New vascular endothelial growth factor protein, useful for treating or preventing diseases associated with inappropriate angiogenesis activity such as cancer, rheumatoid arthritis, psoriasis and wounds -  
 XX  
 Disclosure; Fig 30B; 127pp; English.  
 CC This invention describes a novel vascular endothelial growth factor-X (VEGF-X) protein (Ia) and its encoding polynucleotide (IIa) which has  
 CC vulnerability, cytostatic, antiarthritic, antipsoriatic and  
 CC antidiabetic activity and acts as an angiogenesis and vascularization  
 CC regulator. An antisense molecule of the invention is useful for treating  
 CC retinopathy by inhibiting angiogenic activity or inappropriate  
 CC vascularization including formation and proliferation of new blood  
 CC vessels, growth and development of tissues, tissue regeneration and organ  
 CC and tissue repair in a subject. The products of the invention are useful  
 CC for preparing medicaments for treating wounds such as dermal ulcers,  
 CC diabetic ulcers and burns and to promote  
 CC skin graft growth, tissue repair, proliferation of new blood vessels,  
 CC tissue regeneration and organ repair by promoting angiogenic activity or  
 CC vascularization. This sequence encodes a human VEGF-X protein described  
 CC in the method of the invention.  
 XX  
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 SO  
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 Ratio: 5.544 Gaps: 0  
 Percent Similarity: 100.000 Percent Identity: 100.000  
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 944 AGGAGTAGATATAACGCTGACACCCTGTAAATTCTCAGTGCACATA 1043  
 51 ArgGluGluLeuLysArgThrAspThrIlePheTrpProGlyCysLeuLe 67  
 1044 AGGAAAGAACTAAAGAAGAACGGAATCCATTTCGGCCAGGTGCTCCT 1093  
 67 uValLysArgCysGlyLysAsnCysAlaCysCysLeuHisAsnCysAsnG 84  
 1094 GTTAAACGCTGTTGGAAACTTGCCCTGTTGTCACATTGCAATG 1143  
 84 lucyGlnCysValProSerLysValThrLysStyRHisGluValLeu 100

1144 AATGTCATGTGTCGCCAAGCAAAGTTACTAAAAATCACGAGGTCTT 1193  
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 117 pValAlaLeuGluIleHisGluGluCysAspCysValCysArgGlySerT 134  
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 134 hrGlyGly 136  
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 seq\_documentation\_block:  
 ID AAA71952 standard: DNA; 2776 BP.  
 XX  
 AC AAA71952;  
 XX  
 DT 19-JAN-2001 (first entry)  
 XX  
 DE Human VEGF-X homologue DNA.  
 XX  
 KW VEGF-X; vascular endothelial growth factor; human; vulnerability; cytostatic;  
 KW antiarthritic; antipsoriatic; antidiabetic; treatment;  
 KW angiogenesis regulator; vascularization regulator; cancer; psoriasis;  
 KW rheumatoid arthritis; diabetic retinopathy; blood vessel; organ repair;  
 KW tissue regeneration; tissue repair; wound; dermal ulcer; pressure sore;  
 KW venous sore; diabetic ulcer; burns; skin graft growth; ds.  
 XX  
 OS Homo sapiens.  
 XX  
 FH Key Location/Qualifiers  
 FT CDS 260..1297 /\*tag= a  
 /product= "VEGF-X homologue"  
 FT FT  
 XX  
 PN WO200037641-A2.  
 XX  
 PD 29-JUN-2000.  
 XX  
 PF 21-DEC-1999; 99WO-US30503.  
 XX  
 PR 22-DEC-1998; 98GB-0028377.  
 PR 18-MAR-1999; 99US-0124967.  
 PR 08-NOV-1999; 99US-0164131.  
 XX  
 PA (JANCS ) JANSSEN PHARM NV.  
 XX  
 PI Gordon RD, Sprengel JJ, Yon JR, Dijkmans JJH, Gosiewska A;  
 PI Dhanaraj SN, Xu J;  
 XX  
 DR WPI; 2000-442669/38.  
 DR P-PSDB; AAB10634.  
 XX  
 PT New vascular endothelial growth factor protein, useful for treating or preventing diseases associated with inappropriate angiogenesis activity such as cancer, rheumatoid arthritis, psoriasis and wounds -  
 XX  
 PS Disclosure; Fig 7; 127pp; English.  
 XX  
 CC This invention describes a novel vascular endothelial growth factor-X (VEGF-X) protein (Ia) and its encoding polynucleotide (IIa) which has  
 CC vulnerability, cytostatic, antiarthritic, antipsoriatic and  
 CC antidiabetic activity and acts as an angiogenesis and vascularization  
 CC regulator. An antisense molecule of the invention is useful for treating  
 CC or preventing cancer, rheumatoid arthritis, psoriasis and diabetic  
 CC retinopathy by inhibiting angiogenic activity or inappropriate  
 CC vascularization including formation and proliferation of new blood  
 CC vessels, growth and development of tissues, tissue regeneration and organ  
 CC and tissue repair in a subject. The products of the invention are useful

and tissue repair in a subject. The products of the invention are useful for preparing medicaments for treating wounds such as dermal ulcers, pressure sores, venous sores, diabetic ulcers and burns and to promote skin graft growth, tissue repair, proliferation of new blood vessels, tissue regeneration and organ repair by promoting angiogenic activity or vascularization. This sequence includes the human VEGF-X protein homologue described in the method of the invention.

Sociedad 2776 DOI: 035 315 215 507 C. 035

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  Quality: 754.00
  Ratio: 5.544
  Percent_Similarity: 100.000
  Percent_Identity: 100.000
  Length: 136
  Gaps: 0

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937 TTTGTTGGAAAGAAAATCCAGAGTGGGGATCTGAACCTTCTAACAG 986

34 luGluValArgLeutYrSerCysThrProArgAsnPheSerValSerIle 50

987 AGGAGGTAAAGATTATAACAGCTGCACACCTTCGTAACCTTCTCACTGTCATA 1036

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THE JOURNAL OF CLIMATE

64  
SAICYS YASUCHI SADAO YASUHIRO SASUO

108 / GGTAAACGCTGGTGGGAACCTGGCTCCACAAATTGCAATG 1136

84 luCysGlnCysValProSerLysValThrLysLysTyrHisGluValLeu 100

1137 AATGTCAAATGTGCCAAGCAAGTTACTAAAAATAACCAGGGTCCCTT 1186

101 GlnLeuArgProLysThrGlyValArgLysSerIleThrAsnLeu

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I 34 hrG Y I 36

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1 documentation block:
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AAA52458:
25-SEP-2000 (first entry)
CDNA encoding human growth factor related molecule GFRP-4.

Human GFRP-4; growth factor related molecule; diseased breast tissue;
bone morphogenetic protein 1; BMP-1; inflammation; immune response;
reproductive tissue; reproductive disorder; developmental disorder; cell
proliferative disorder; immune disorder; reproductive disorder; cell
cardiovascular disorder; bacterial infection; viral; fungal; parasitic;

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Ratio: 5.544 Gaps: 0
Percent Similarity: 100.000 Percent Identity: 100.000

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  885 TTGGCTATGAAAGTCATAATGGCAACTTCTGGCRAAGGC 934
.17 apheValPheGlyArgLysserArgValValAspLeuAsnLeuLeuThrG 34

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34	IuGluValArgLeuThrSerCysIleProArgAsnPheSerValSerIle	50
985	AGGAGTAAAGATTAAACAGCTGGCACACCTCTAACTCTCAGTGTCCATA	103
51	ArgGluGluLeuLysArgGluThrAspThrIlePhePheProGlyCysLeuLe	67
1035	AGGGAGAACTAAAGAGAACCGATACCATTCTGCAGGGTGTCTCCCT	108
67	uValIysArgCysGlyGlyIleAsnCysAlaCysCysLeuHisasnCysAsnG	84
1085	GGTAAACGCTGTGGTGGAAACTGTGCCCTGTCTCCACAAATTGCAATG	113
84	IucysGlnCysValProSerLysValThrLysLysIleProSerLysValThrLysLysIle	100
1135	AATGCAATGTGTCGAAGCAAAGTFACTAAAAATPACAGGGRCCPT	118
101	GlnLeuArgProLysThrGlyValArgGlyLeuHisIysSerLeuThrAs	117
1185	CAGTGTAGACCCAAGAACCCGGATTGCAACAAATCACTACCGA	123
117	pValAlaLeuGluHisIleGluLysAspCysValCysArgGlySerT	134
1235	CGTGCCCTGGAGCACCATGAGGAGTGTGACTGTGTGAGGGAGCA	128
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AAZ3691 standard; DNA; 2825 BP.  
AAZ3691;  
11 JAN 2000 (first entry)

**VEGF-E:** human; vascular endothelial cell growth factor; wound repair; treatment; cardiovacular disorder; endothelial disorder; therapy; tissue generation; regeneration; cardiac hypertrophy; cancer; detection; antigenic disorder; age-related macular degeneration; vascular disease; angiogenesis; neovascularization; tumor; gene transfer; transfection.

Homo sapiens .	Key CDS	Location/Qualifiers
		259..1296 /* tag= a "http://"

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98US-0040220.

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CH INC.

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3/43.

POLYBENZYLIC

Claim 2; Fig 1; 12288; English.

This invention describes the isolation of a novel human vascular endothelial cell growth factor-E (VEGF-E) polypeptide which has tranquillizer, vulnery and carciant activity. VEGF-E can be administered therapeutically, especially by expressing encoding polynucleotides, to treat cardiovascular or endothelial disorders in mammals, especially humans. It is useful in wound repair and tissue generation and regeneration, and may especially be used to treat cardiac hypertrophy. It can be combined with a carrier in pharmaceutical compositions, which can be administered to treat disorders as above. VEGF-E can be used to screen for antagonists and agonists, and the antagonists administered to treat angiogenic disorders in mammals (especially humans) e.g. cancer or age-related macular degeneration. It can be used to generate antibodies, useful therapeutically as antagonists, as above. The antibodies are also useful to detect VEGF-E polypeptide, especially to diagnose cardiovascular, endothelial or angiogenic disorders in mammals (e.g. vascular disease, or neovascularization associated with tumor formation), by contacting the antibody with a tissue sample and detecting formation of an antibody-VEGF-E polypeptide complex. Polynucleotides encoding VEGF-E can be used to diagnose cardiovascular and endothelial disorders in mammals, by detecting abnormally high or low VEGF-E gene expression in tissue samples. They can also be used to diagnose a disease or susceptibility to a disease related to a mutated form of VEGF-E (e.g. a cardiovascular, endothelial or angiogenic disorder such as a tumor), by detecting a mutation in the VEGF-E-encoding sequence isolated from a sample. They may also be used to produce probes useful to detect related sequences or for gene mapping. This sequence encodes the human VEGF-E protein described in the method of the invention.

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    Ratio: 5.544
    Percent Similarity: 100.000
    - Length: 136
    - Gaps: 0
    Percent Identity: 100.000

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886 ;TTCGACCTTGAAGATCPTATAGCCAACTTGTGGCAACTCTTGCCAAAGGC 935
17 aspAlaPheGlyArgLysSerArgValValAspIleusAsnLeuLeuThr 34
   ||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| |
936 TTGGTTTTGGAGAAAATCCAGATGTGTGGATCTGAACTTCAACAG 985
34 luGluValLArgLeuThrSerCysThrProArgAsnPheSerValSerIle 50

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1036	AGGAAACATAAAGAACCTGGATACCAATTTCGCCAGTGTCTCTT	1085
67	uvallysArgCysSglGlyAsnCysAlaCysCysLeuHisAsnCysAsnG	84
1086	GCGTTAAACGCTTGCTGGGAACGTTGCCCTGTGTCCTCCAAUAGTCATTA	1135

84 luCysGlnCysValProSerLysValThrLysTyrHisGluValLeu 100  
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 1136 AATGTCAATGTGTCAGCCAAAGTTACTAAAAAAATTACACGAGTCCTT 1185

101	GlnLeuArgProLysThrGlyValArgGlyLeuHisLysSerLeuThrAs
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